



**Final Data Summary Report
Soil/Sediment Sampling Results
Pre- Design Sampling
12th Street Landfill
Operable Unit #4**

Allied Paper/Portage Creek/Kalamazoo River Site
Plainwell, Michigan

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1.0 INTRODUCTION

This Data Summary Report (DSR) presents the results of the Pre-Design soil/residual and sediment sampling study performed on behalf of the United States Environmental Protection Agency (U.S. EPA) by Environmental Design International Incorporated (EDI). This DSR summarizes the field activities that were performed and analytical data that were collected between September 15, 2003 and September 25, 2003. EDI performed sampling activities that included the sampling and analysis of soil and paper residuals in the wetlands and woodlands, and sediments in the former powerhouse discharge channel. The work included collection of 159 soil/residual samples, 34 sediment samples, inclusive of QA/QC samples. U.S. EPA's Field Environmental Decision Support ("FIELDS") Team provided support for the project. The FIELDS Team developed the sample location plan using GIS software and surveyed and flagged the sample locations in the field using GPS equipment.

This Pre-Design sampling was designed to further delineate the polychlorinated biphenyl (PCB) contamination which may have migrated from the landfill into the adjacent wetland, woodland and former powerhouse discharge channel. The following sections summarize the procedures used to collect the samples and the results obtained from the sampling events. The FIELDS Team also used the data from this investigation and previous investigations to develop remediation estimates of soil and sediment surrounding the landfill. Those results are presented in Appendix 1. In accordance with the Record of Decision the cleanup is to be based upon visual contamination. The FIELDS analysis is merely further elucidate the area of contamination. The threshold PCB concentrations used in the analyses are not to be construed as the cleanup standards to be applied at the site. The concentrations used were selected to as representative of the range of threshold criteria recommended by the risk assessments developed for the site. It should be noted that due to access issues, this sampling effort and volume estimates did not address potential contamination on the gravel mining property adjacent to the landfill along the southwest corner of the landfill.

2.0 HISTORICAL AND BACKGROUND INFORMATION

Site Location

The 12th Street Landfill (“Landfill”) is Operable Unit 4 of the Allied Paper/Portage Creek/Kalamazoo River Superfund Site. The 12th Street Landfill is located in Otsego Township, approximately ½ miles northwest of the City of Plainwell in Allegan County, Michigan. The landfill occupies approximately 6.5 acres and is bordered to the east by the Kalamazoo River, to the north and west by wetlands, to the south and southeast by industrial developed land, and to the south and southwest by a gravel pit operation (see figure 1).

General Site Information

Beginning in 1954, the National Cash Register Company (now NCR Corporation) began manufacturing carbonless paper. NCR’s paper product contained the polychlorinated biphenyl (“PCB”) compound known as Aroclor 1242 as an ink carrier or solvent.

Between the late 1950s and early 1970s, several paper companies doing business along the Kalamazoo River recycled large quantities of NCR’s carbonless copy paper, which required deinking before repulping could occur. The processes of deinking and repulping of the NCR resulted in PCBs either becoming integrated in new paper products or became part of the mills’ waste streams.

NCR ceased manufacturing its carbonless copy paper in 1970. Because some of the PCBs from the carbonless paper remained in the recycled pulp, and subsequently were incorporated into new paper products, the new products made from the pulp contained elevated levels of PCBs until approximately 1989.

The paper mills operating along the Kalamazoo River, including the owners and operators of the Plainwell mill, initially disposed of the paper waste sludge from the mill operations directly into the River. By the mid-1950s, some mills had installed primary clarifiers, and began disposing of the solid wastes in unlined sludge lagoons located adjacent to the River.

The MDEQ became concerned about the presence of PCBs in the Kalamazoo River in 1971, after routine surface water and biota sampling at the mouth of the River indicated that PCBs were discharging to Lake Michigan via the Kalamazoo River, and that these PCBs were widely bioavailable. The Site was listed on the NPL in 1990. According to the NPL Site narrative, the Site originally comprised: 1) the 80 acres of the Allied Paper mill property; 2) a 3-mile stretch of Portage Creek; and 3) a 35-mile stretch of the Kalamazoo River. Shortly after the Site was listed, U.S. EPA and MDEQ agreed to designate the Site as a non-Fund Financed, state enforcement lead site for purposes of the RI/FS. MDEQ negotiated an administrative agreement with three PRPs from the site, pursuant to which these PRPs agreed to conduct an RI/FS. The scope of the Site investigation expanded to include: 1) approximately 80 miles of the Kalamazoo

River from Morrow Lake Dam downstream to Lake Michigan; 2) the adjacent floodplains and wetlands; 3) five paper residual disposal areas; and 4) six paper mill properties.

Plainwell Mill Operations and 12th St. Landfill Information

The 34-acre Plainwell mill is the most downstream of all the paper mills along the Kalamazoo River. Between 1954 and 1985, the mill produced approximately 159 tons of paper per day. Until 1962, between 40% and 60% of the “furnish” to the papermaking operations at the mill was virgin pulp. The remaining furnish (40%-60%) was de-inked pulp produced at the mill. The mill de-inked an average of 59 tons per day of paper stock, although the vast majority of the de-inking stock was not NCR paper. In January of 1963, i.e. during the period Weyerhaeuser owned the mill property, de-inking operations were discontinued, and thereafter Plainwell mills’ owners and operators used primarily virgin pulp to make paper.

Between 1955 and 1981, the owners and operators of the Plainwell mill disposed of the waste paper residuals from the papermaking process into the 12th St. Landfill, designated by MDEQ as Operable Unit #4. The 6.5-acre Landfill, which is not contiguous with the mill property, is located approximately 1.5 miles northwest of the City of Plainwell in Allegan County, Michigan. The Landfill is bordered to the east by a former powerhouse discharge channel for the Plainwell Dam, to the north and northwest by marsh areas, to the southeast by vegetated woodlands, and to the west by a gravel mining operation. Erosion along the border of the landfill has resulted in contamination migrating onto these adjacent properties

In 1967 Weyerhaeuser, which became the owner and operator of the Plainwell mill in 1961, constructed a containment berm at the eastern edge of the Landfill to prevent erosion of the paper wastes into the Kalamazoo River. A subsequent mill owner extended the containment berm around the entire Landfill in 1976. The current owner of the Landfill, Plainwell Inc., maintains the paper residuals do not comprise any part of the containment berm and that no erosion has occurred from the 12th Street Landfill. MDEQ has data, however, establishing that PCB-contaminated residuals form part of the berm itself. Sampling during the RI also established that paper residuals extend beyond the berm into the adjacent wetland area, as well as in the former powerhouse discharge channel situated beyond the Landfill and the River. The Record of Decision determined that the presence of paper residuals in the powerhouse channel indicate continued erosion of contaminated paper residuals from the Landfill subsequent to construction of the containment berm.

Risk assessments for the River indicate that sensitive aquatic and terrestrial biota have been adversely affected by PCBs in surface water, floodplain soils and river sediment. MDEQ did not develop Landfill-specific human health or ecological risk assessments. In order to assess the risks presented by the Landfill, MDEQ relied extensively on a risk assessment prepared in connection with the State’s 1997 remedial decision for another landfill at the Site, the King Highway Landfill, Operable Unit #3. Both landfills contain the same types of PCB-contaminated paper residuals, with identical exposure routes and receptors. No barriers currently exist to

prevent fauna movement to and from the Landfill, adjacent woodlands, marshes, gravel mining property to the west, or former powerhouse discharge channel. All of these areas have been adversely affected by the release of PCBs from the Landfill.

Record of Decision

On September 28, 2001 Region 5 concurred with the remedy selected by the MDEQ for the 12th Street Landfill, Operable Unit #4. The ROD called for the following major components:

- Excavation and relocation into the landfill, contaminated residuals currently in the woodlands, wetlands, and adjacent property, and the residuals in the former powerhouse discharge channel that are contiguous with the eastern side of the landfill
- Excavation and relocation into the landfill of the east side of the landfill along the former powerhouse discharge channel to create a buffer zone between the landfill and the channel;
- Restoration of any areas affected by the remedial action;
- Construction of a sidewall containment system around the outside perimeter of the landfill designed and constructed to prevent the release of PCBs, provides side slope stability, flood protection, and erosion control;
- Construction of a impermeable composite cover (cap) designed to meet the relevant portions of Part 115, Solid Waste Management, of the NREPA to prevent migration of precipitation through the waste and eliminate the direct contact threat. If necessary a landfill gas venting system will be constructed as part of the cover system;
- Long-term groundwater monitoring;
- Short-term surface water monitoring
- Deed restrictions;
- Investigation of the need for , and if necessary design and construction of, a leachate collection system; and,
- Long-term operation and maintenance of the remedy.

On February 2, 2002, Region 5 and MDEQ agreed that U.S. EPA should assume the enforcement

lead for certain areas of the Site, including the 12th Street Landfill.

3.0 Previous Sampling Activities

Remedial Investigation Sampling

In 1993 as part of the Remedial Investigation 62 residual/soil samples were collected within the landfill from a total of 16 test pits, six soil borings, and a buried steel drum, and analyzed for PCBs, VOCs, and SVOCs, inorganic compounds, pesticides, and dioxins and furans. Elevated PCBs were detected in 31 samples, with a maximum concentration of 140 parts per million (ppm). Numerous inorganic compounds, pesticides, VOCs, SVOCs, and dioxins exceeded the relevant cleanup criteria.

Soil/Residual samples were collected from soil and monitoring well borings located outside the landfill perimeter, and from two sediment cores collected in the former powerhouse discharge channel, immediately adjacent to the east side of the landfill. Elevated PCB concentrations were reported in 24 of the 45 samples analyzed, including both samples collected from the channel (SD1 and SD2 had PCB concentration of approximately 17 and 28 ppm, respectively). Appendix 2 includes the PCB analytical results for the samples from the RI. Figure 2 illustrates the maximum PCB values detected at each location. Figure 3 illustrates the approximate extent of visible paper residuals that are contiguous with the landfill.

In 1993, groundwater samples were collected from 15 monitor wells and analyzed for VOCs, SVOCs, inorganic compounds, pesticides, and PCBs. PCBs were not detected and all other results were either non-detect or below cleanup standards with the exception of bis(2-ethylhexyl) phthalate. A second round of samples was collected in 1995. Analyses was limited to PCBs, and results indicated non-detectable concentrations.

Three leachate wells were sampled in 1993 and again in 1995. Analytical results from the 1993 sampling event indicate the presence of trace concentrations of various VOCs, SVOCs, and Aldrin, as well as elevated concentrations of toluene (680 ppb). In 1995 leachate samples were analyzed for PCBs only. Results indicate that leachate collected from leachate well LH-1 had PCB concentrations of 1.4 ppb.

BBL Former Powerhouse Discharge Channel Investigation

In 2001 Blasland, Bouck and Lee, Inc. ("BBL"), on behalf of the Kalamazoo River Study Group, submitted a work plan to the MDEQ for delineating the extent of PCB-containing paper-making residuals to be extracted from the former powerhouse discharge channel adjacent to the 12th Street Landfill as part of an Interim Response Activity (IRA). The work plan was approved by MDEQ on January 31, 2001. The intent of the investigation was to identify the materials within reach of excavation equipment to be extracted from the powerhouse channel. The sampling grid for that sampling had a spacing of 20 feet perpendicular to the channel and 50 feet parallel to the

channel. The grid extended 60 feet into the channel from the west bank and 250 to 300 feet along the east side of the landfill. BBL performed the sampling in February 2001 and the results are presented in Appendix 3. During that sampling it was decided not to analyze sample sediment cores visibly contaminated with paper residuals as it was assumed that those residuals would exceed the cleanup criteria. Therefore, locations 2, 3, 4, and 5 were not analyzed. Twenty eight samples were analyzed for PCBs. Total PCB concentrations ranged from 34 ppm to non-detect

Special Notice Letter

On September 26, 2002 U.S. EPA sent a Special Notice Letter to Weyerhaeuser, the former owner and operator, inviting them to negotiate a Consent Decree for the performance of the Remedial Design and Remedial Action selected in the ROD for the 12th Street Landfill. On November 22, 2002 U.S. EPA received a response to the SNL from Weyerhaeuser. In its response letter to the SNL Weyerhaeuser had raised several technical concerns regarding the 12th Street Landfill and the selected remedy (Weyerhaeuser 2002). Specifically they claimed data gaps existed in the following areas:

- 1) geotechnical data for constructability assesement of the side-wall containment system;
- 2) only two sediment samples were collected from the former powerhouse discharge channel with no identified protocol for differentiating between PCBs associated with the landfill and those that may be attributable to other upstream sources;
- 3) no clear delineation of the property line exists and only limited soil characterization data; and,
- 4) no landfill gas characterization data, only limited leachate quality information.

U.S. EPA subsequently determined that a good-faith offer had not been received from Weyerhaeuser. The Agency decided to perform a limited pre-design investigation to address Weyerhaeuser's concern of full delineation of contamination in the former powerhouse discharge channel and the floodplain/wetlands area.

4.0 PRE-DESIGN INVESTIGATION

On May 20, 2003, U.S. EPA issued a task order to Environmental Design, Inc. ("EDI") under the Superfund Technical Assistance Team Contract (Contract No. 68-S5-01-02, Task Order Number

3) to perform pre-design sampling and analysis activities at the 12th Street Landfill. On June 30, 2003 EDI submitted two draft documents: "Work Plan: Pre-Design Soil and Sediment Sampling 12th Street Landfill, Kalamazoo River Superfund Site, Operable Unit #04, Plainwell, Michigan" (EDI 2003a) and "Sample and Analysis Plan Pre-Design Soil and Sediment Sampling 12th Street Landfill, Kalamazoo River Superfund Site, Operable Unit #04, Plainwell, Michigan" (EDI 2003b). Both documents were approved by the Agency on July 16, 2003. Specifically, EDI was tasked to collect 153 soil/residual samples from the adjacent wetlands and woodlands, and 32 sediment samples from the powerhouse channel. The sampling and analysis included the 11 duplicate QA/QC samples.

Sampling Design Rationale

Figure 4 presents the approximate locations of all sampling points included in this pre-design investigation. The intent of the sampling design for this investigation was to build upon previous investigations performed by BBL and MDEQ during the Remedial Investigation and to further define the extent of contamination required to be addressed in the RD/RA for the 12th Street Landfill. The sample design was created by the FIELDS Team using the FIELDS Geographic Information System ("GIS") software creating geographic positioning system ("GPS") coordinates.

Based upon the results of the previous investigations in the adjacent wetlands and the results from the April 2003, "Final (Revised), Ecological Risk Assessment (MDEQ 2003), and the January 2002, "Final (Revised) Human Health Risk Assessment" (MDEQ 2002), U.S. EPA identified areas requiring additional investigation to assess the extent of contamination. Samples from several locations sampled in the wetlands in 1993 and in 2001 were well above the threshold PCB concentration ranges recommended in the risk assessments. Using three locations (locations DB-3, DB-5, and DB-9) as centers, the FIELDS Team developed a radial sampling grid for the wetland area, resulting in 34 sampling locations within the wetlands. The radial design was based on distances of 32, 131 and 328 feet from the previously sampled locations. Sample location fp07 was located near an area observed by the MDEQ as a potential runoff area from the landfill.

No soil sampling had previously been performed in the woodlands between the landfill and the powerhouse discharge channel. Therefore, sample locations were spaced approximately 100 feet apart across the area to assess the extent of contamination in this area. Where appropriate, sample locations along the bank of the former powerhouse discharge channel were located adjacent to sediment sampling locations within the powerhouse discharge channel to evaluate erosion potential of PCB contaminated soils in this area.

Sediment sample locations in the former powerhouse discharge channel were chosen to provide four pieces of information: 1) locations were placed near the bank of the channel to evaluate the potential for PCB contamination from bank erosion; 2) locations sd10, sd11, and sd02 were placed to assess the potential for contamination migration from upstream sources; 3) location

sd01, sd09, sd15 and sd16 were placed to assess the possibility that contamination might have entered the former powerhouse discharge channel via hydraulic flow around the east bank of the powerhouse discharge channel; and, 4) samples were located in transects across the powerhouse discharge channel to assess the extent of contamination across width of the channel.

EDI was to gather composite samples at each location in the wetlands and woodlands from the following depth intervals: 0-6 inches, 6-12 inches, and 6 inches of native soil (12-24 inches). Sediment samples were to be collected from 0-6 inches and 6-12 inches.

September 2003 Field Activity Summary

All pre-design sampling activities were performed by EDI, the U.S. EPA Region 5 FIELDS Team, and MDEQ personnel. EDI completed the sampling activities between September 15, 2003 and September 19, 2003. However, due to an error in sample delivery, approximately 50 samples arrived at the laboratory on September 22, 2003 at a temperature of approximately 20 degrees fahrenheit, exceeding the temperature criteria established in the sampling plan. EDI remobilized to the site on September 29th and 30th to resample the affected locations. Appendix 4 contains field notes, photographs and chain of custody forms, documenting the work performed. Except as noted below, all field activities were performed in accordance with the June 30, 2003, "Work Plan: Pre-Design Soil and Sediment Sampling 12th Street Landfill, Kalamazoo River Superfund Site, Operable Unit #04, Plainwell, Michigan", "Sample and Analysis Plan Pre-Design Soil and Sediment Sampling 12th Street Landfill, Kalamazoo River Superfund Site, Operable Unit #04, Plainwell, Michigan" and the September 5, 2003, "Health and Safety Plan".

U.S. EPA's FIELD Team personnel were on-site on September 11 and 12, 2003 to begin flagging sampling locations. Using an ATV and GPS unit the FIELD personnel navigated to the GPS coordinates of the sample locations (+/- 1 meter accuracy) determined in the sample design. The sample locations were marked with wooden stakes and colored surveyor tape marked with the appropriate sample ID. Using the ATV and dragging a boat to flatten cattails, the FIELDS Team created pathways through the floodplain to facilitate the sampling crew's access to the locations

On September 15, 2003, EDI personnel arrived on site, and along with U.S. EPA's FIELD Team personnel, performed a site walk through and general mobilization activities. EDI began sampling the flagged locations in the floodplains on September 16, 2003.

As required by the Sampling and Analysis Plan, EDI began sampling in the floodplains using 4 foot PVC Macrocore® liners vertically pushed into the soil under hand power or a modified slide hammer. However, because of low recovery volumes due to soil conditions only sample location fp19 was completed with this technique. Sample locations fp18, fp32, fp34, fp30, fp5, fp3, fp23, fp13, and fp12 all exposed sediment location (exp) samples were completed with a hand auger. The remaining floodplain samples were obtained using 3 inch wide lexan tubes. The tubes were hand driven into the soil. Once the appropriate depth was reached a cork was placed in the top of the tube and the tube, along with the core extracted from the bore hole. Soils/residuals from the

appropriated depths were collected in pre-cleaned laboratory appropriate (8 oz.) sample jars with no preservatives for analysis of PCBs. The sample jars were wide mouth glass containers with fitted screw tight teflon lined caps and filled to capacity. Appendix 5 contains the soil boring logs describing the lithology at each sample location.

Instream sediment sampling was performed by the FIELDS Team along with Weston personnel, EDI's subcontractor. Sampling personnel navigated in a small boat to the sample locations and marked the locations with anchored buoys or PVC tubing. Locations were then surveyed using the GPS unit. Sediment samples were collected using 6 foot lexan tubing, hand pushed into the sediment for sample retrieval.

Collected samples were labeled, preserved in a cooler with ice and shipped to Ceimic Corporation in Narragansett, Rhode Island for analysis, in accordance with the Sampling and Analysis Plan, June 2003. Quality assurance/quality control (QA/QC) samples were also supplied sample numbers. Chain-of-custody forms were used to track all samples from the time of sampling to the arrival of samples at the laboratory. QA/QC validation of the data was conducted by U.S. EPA using CADRE data validation software. All analytical results from this sampling event are reported in Table 1 and Table 2.

5.0 DATA RESULTS AND CONCLUSIONS/RECOMMENDATIONS

The September 2003 sampling effort resulted in 159 soil/residual samples and 34 sediment samples being collected and analyzed for total PCBs. Figures 5 through 7 present the results in graphical format. Figure 5 presents those total PCB analytical results for samples from 0 -6 inches. Figure 6 presents those total PCB analytical results for samples from 6-12 inches. Figure 7 presents those total PCB analytical results for samples from 12-24 inches.

Appendix 1 to this report is the January 30, 2004, "FIELDS Team Contamination and Remediation Estimates of Soil and Sediment Surrounding the 12th Street Landfill", and should be reviewed for a complete statistical analysis of the data.. The FIELDS analyses included interpolation of the data both segregating data according to depth and by using the maximum PCB concentration at each sample location to estimate the area requiring remediation, estimated PCB mass removed, and the subsequent post-remediation PCB concentration. The FIELDS team generated an analysis based upon a range of PCB concentrations. The risk assessments recommend a range of threshold PCB concentrations for each media. The FIELDS analysis selected concentrations representative of these ranges. This analysis does not reflect a determination by U.S. EPA of the cleanup standards to be applied at this site. Due to the limitations of this study complete vertical profiling was not performed at each location resulting in potential underestimation of volumes, i.e samples were only collected from a maximum depth of 24 inches.

In summary, the FIELDS interpolation analysis shows that approximately 12,341 cubic yards of soil and sediment have PCB concentrations greater the 0.6 ppm and 3312 cubic yards with PCB

concentrations above 4 ppm. An estimated 1,467 cubic yards of soil and sediment have PCB concentrations greater than 8 ppm. An estimated 153 cubic yards of soil and sediment have PCB concentration greater than 23 ppm.

Figure 6 of the FIELDS report depicts the areas with PCB concentrations above 0.6 ppm, 4 ppm, 8 ppm, 15 ppm, and 23 ppm, respectively. The interpolated areas exceeding 0.6 ppm PCB concentration generally correspond to the areas visually identified by the MDEQ as being contaminated. The area with PCB concentrations greater than 0.6 ppb generally extends approximately 100 feet into the wetlands area and extends along the north and west perimeter of the landfill and includes 97 percent of the mass of PCBs. In the woodland area the area with PCB concentrations exceeding 0.6 ppb is located around sampling locations exp13 and exp02 and extends to the eastern bank of the former powerhouse discharge channel. Sample location exp13 exhibited the highest PCB concentration in the woodlands with concentrations of 11.88 ppm, 16.47 ppm, and 8.76 ppm in the 0 to 6 inch, 6 to 12, and 12 to 24 depths respectively. The interpolated area with soils exceeding 4 ppm total PCBs encompasses a fourth of the volume of soils exceeding 0.6 ppm, but includes 61 percent of the mass of PCBs. The FIELDS analysis of post remediation concentrations show that if all soils below 4 ppm total PCBs are removed the remaining soils would have an average concentration of 0.6 ppm.

The data gathered during the Remedial Investigation and Pre-Design Investigations by BBL and MDEQ and this investigation have adequately delineated the extent of PCB contamination with the exception of two areas. One area requiring additional investigation would be the property to the southwest, which was not investigated due to access issues. The second area possibly warranting further investigation would be in the woodlands area near sample locations exp13 and exp02. Given the 100 foot spacing of the sample locations in the woodland area, a more concentrated sampling design might be appropriate to further define the area requiring remediation.

The concentrations of PCBs found in the former powerhouse discharge channel ranged between 7.7 ppm and 0.016 ppm with an average concentration of 0.44 total PCBs. PCBs were detected in all samples taken from the channel. Sediment location sd07 showed the highest PCB concentrations with 2.7 ppm in the 0 to 6 inch horizon and 7.7 ppm in the 6 to 12 inch horizon. This location generally corresponds the same area where the highest PCB concentrations were detected in the 2001 Predesign Investigation. Based on the MDEQ's visual observation of the channel sediments during their Pre-Design Investigation 2001 it would appear that paper waste residuals from the landfill have entered the channel through erosion. The highest concentration detected in the BBL's Pre-design Investigation of the sediments was 34 ppm with an average concentration of 2.4 ppm which is consistent with the results found in this study.

Sample locations sd10, sd11 and sd02 were located at the southern end of the powerhouse channel to assess if sources upstream of the landfill may be contributing to PCB concentrations in the channel via leakage through the dam. Only low levels of PCBs were detected in these sample locations with the maximum PCB concentration being 1.53 ppm. These concentrations

are consistent with concentrations detected throughout the channel. Given the visual evidence of paper residuals along the banks adjacent to the landfill and PCBs detected in soil samples along the banks of the channel, the landfill is the most likely source of sediment PCBs in the channel. However, with the potential for surface water flow around the northern end of the eastern bank of the channel it is not possible to conclude if the landfill is the sole source of these low level PCB concentrations.

These results seem to confirm the conclusions made in the MDEQ's ROD that within the wetlands, woodlands, and the former powerhouse discharge channel there is a limited area of soils/residuals and sediment that have migrated outside the landfill and require consolidation within the landfill. The areas requiring consolidation would be the soils/residuals within the wetlands along the north and west boundaries of the landfill extending less than 100 feet from the landfill. Figure 8, 9, and 10 visually present the 1993, 2001, and 2003 data together. In addition the soils/residuals between the landfill and western bank of the former powerhouse discharge channel would require consolidation, along with the instream sediments along the eastern bank of the channel.

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Tables

Table 1 12th Street Landfill Total PCB Analytical Results Soil/Sediment Fall 2003

LOCATION	SAMPLE	Aroclor-1016 ug/KG	FLAG	Aroclor-1221 ug/KG	FLAG	Aroclor-1232 ug/KG	FLAG	Aroclor-1242 ug/KG	FLAG	Aroclor-1248 ug/KG	FLAG	Aroclor-1254 ug/KG	FLAG	Aroclor-1260 ug/KG	FLAG	Total PCB ug/Kg
exp01-1	E2CQ1	36.00	U	74.00	U	36.00	U	36.00	U	340.00		560.00		36.00	U	1118.00
exp01-2	E2CQ2	37.00	U	75.00	U	37.00	U	37.00	U	710.00		1200.00		37.00	U	2133
exp01-3	E2CQ3	36.00	U	74.00	U	36.00	U	36.00	U	440.00		750.00		36.00	U	1408
exp02-1	E2CQ4	410.00	U	840.00	U	410.00	U	410.00	U	4300.00		4600.00		410.00	U	11380
exp02-2	E2CQ5	410.00	U	830.00	U	410.00	U	410.00	U	5600.00		4900.00		410.00	U	12970
exp02-3	E2CQ6	35.00	U	71.00	U	35.00	U	35.00	U	370.00		470.00		35.00	U	1051
exp03-1	E2CQ7	35.00	U	71.00	U	35.00	U	35.00	U	35.00	U	35.00	U	35.00	U	281
exp03-2	E2CQ8	37.00	U	75.00	U	37.00	U	37.00	U	37.00	U	37.00	U	37.00	U	297
exp03-3	E2CQ9	35.00	U	72.00	U	35.00	U	35.00	U	35.00	U	35.00	U	35.00	U	282
exp04-1	E2CR0	49.00	U	100.00	U	49.00	U	49.00	U	49.00	U	49.00	U	49.00	U	394
exp04-2	E2CR1	37.00	U	74.00	U	37.00	U	37.00	U	37.00	U	37.00	U	37.00	U	296
exp04-3	E2CR2	36.00	U	73.00	U	36.00	U	36.00	U	36.00	U	36.00	U	36.00	U	289
exp05-1	E2CR3	36.00	U	73.00	U	36.00	U	36.00	U	36.00	U	36.00	U	36.00	U	289
exp05-2	E2CR4	36.00	U	73.00	U	36.00	U	36.00	U	36.00	U	36.00	U	36.00	U	289
exp05-3	E2CR5	33.00	U	68.00	U	33.00	U	33.00	U	33.00	U	33.00	U	33.00	U	266
exp06-1	E2CR6	36.00	R	74.00	R	36.00	R	36.00	R	36.00	R	36.00	R	36.00	R	290
exp06-2	E2CR7	35.00	U	71.00	U	35.00	U	35.00	U	35.00	U	35.00	U	35.00	U	281
exp06-3	E2CR8	36.00	U	73.00	U	36.00	U	36.00	U	36.00	U	36.00	U	36.00	U	289
exp07-1	E2CR9	35.00	U	72.00	U	35.00	U	35.00	U	35.00	U	35.00	U	72.00	U	319
exp07-2	E2CS0	35.00	U	70.00	U	35.00	U	35.00	U	35.00	U	35.00	U	35.00	U	280
exp07-3	E2CS0	34.00	U	69.00	U	34.00	U	34.00	U	34.00	U	34.00	U	34.00	U	273
exp08-1	E2CS2	35.00	U	72.00	U	35.00	U	35.00	U	310.00		250.00		35.00	U	772
exp08-2	E2CS3	34.00	U	70.00	U	34.00	U	34.00	U	21.00		27.00		34.00	U	254
exp08-3	E2CS4	34.00	UJ	69.00	UJ	34.00	UJ	34.00	UJ	26.00		40.00		34.00	UJ	271
exp09-1	E2CS5	36.00	U	72.00	U	36.00	U	36.00	U	36.00	U	36.00	U	36.00	U	288
exp09-2	E2CS6	36.00	U	72.00	U	36.00	U	36.00	U	36.00	U	36.00	U	36.00	U	288
exp09-3	E2CS7	35.00	U	70.00	U	35.00	U	35.00	U	35.00	U	35.00	U	35.00	U	280
exp10-1	E2CS8	37.00	U	74.00	U	37.00	U	37.00	U	37.00	U	37.00	U	37.00	U	296
exp10-2	E2CS9	35.00	U	70.00	U	35.00	U	35.00	U	35.00	U	35.00	U	35.00	U	280
exp10-3	E2CT0	35.00	U	72.00	U	35.00	U	35.00	U	35.00	U	35.00	U	35.00	U	282
exp11-1	E2CT1	35.00	U	70.00	U	35.00	U	35.00	U	35.00	U	35.00	U	35.00	U	280
exp11-2	E2CT2	35.00	U	71.00	U	35.00	U	35.00	U	35.00	U	35.00	U	35.00	U	281
exp11-3	E2CT3	34.00	U	69.00	U	34.00	U	34.00	U	34.00	U	34.00	U	34.00	U	273
exp12-1	E2CT4	38.00	U	77.00	U	38.00	U	38.00	U	38.00	U	38.00	U	38.00	U	305
exp12-2	E2CT5	36.00	UJ	73.00	UJ	36.00	UJ	36.00	UJ	36.00	UJ	36.00	UJ	36.00	UJ	289
exp12-3	E2CT6	34.00	U	70.00	U	34.00	U	34.00	U	34.00	U	34.00	U	34.00	U	274
exp13-1	E2CT7	460.00	U	940.00	U	460.00	U	460.00	U	5100.00		4000.00		460.00	U	11880
exp13-2	E2CT8	460.00	U	930.00	U	460.00	U	460.00	U	9100.00		4600.00		460.00	U	16470
exp13-3	E2CT9	390.00	U	800.00	U	390.00	U	390.00	U	3600.00		2800.00		390.00	U	8760
exp14-1	E2CW0	54.00	U	110.00	U	54.00	U	54.00	U	170.00		510.00		54.00	U	1006
exp14-2	E2CW1	41.00	U	83.00	U	41.00	U	41.00	U	130.00		290.00		41.00	U	667
exp14-3	E2CW2	45.00	U	91.00	U	45.00	U	45.00	U	32.00		74.00		45.00	U	377
exp15-1	E2CW3	36.00	U	74.00	U	36.00	U	36.00	U	40.00		340.00		36.00	U	598
exp15-2	E2CW4	36.00	U	74.00	U	36.00	U	36.00	U	440.00		200.00		36.00	U	858
exp15-3	E2CW5	35.00	U	72.00	U	35.00	U	35.00	U	36.00		170.00		35.00	U	418
exp16-1	E2CW6	41.00	U	82.00	U	41.00	U	41.00	U	90.00		280.00		41.00	U	616
exp16-2	E2CW7	38.00	U	78.00	U	38.00	U	38.00	U	48.00		140.00		38.00	U	418
exp16-3	E2CW8	38.00	U	77.00	U	38.00	U	38.00	U	38.00	U	38.00	U	38.00	U	305
fp01-1	E2C99	150	U	300	U	150	U	150	U	690		940		150	U	2530
fp01-2	E2CA0	53	U	110	U	53	U	53	U	53	U	53	U	53	U	428
fp01-3	E2CA1	42	UJ	86	UJ	42	UJ	42	UJ	42	UJ	42	UJ	42	UJ	338
fp02-1	E2CA2	49	U	99	U	49	U	49	U	49	U	49	U	49	U	393
fp02-2	E2CA3	63	UJ	130	UJ	63	UJ	63	UJ	1600		1100		63	UJ	3082
fp02-3	E2CA4	67	UJ	140	UJ	67	UJ	67	UJ	4300		2600		67	UJ	7308
fp03-1	E2CA5	76	U	150	U	76	U	76	U	76	U	76	U	76	U	606
fp03-2	E2CA6	41	U	84	U	41	U	41	U	41	U	41	U	41	U	330
fp03-3	E2CA7	41	UJ	82	UJ	41	UJ	41	UJ	41	UJ	41	UJ	41	UJ	328

LOCATION	SAMPLE	Aroclor-1016 ug/KG	FLAG	Aroclor-1221 ug/KG	FLAG	Aroclor-1232 ug/KG	FLAG	Aroclor-1242 ug/KG	FLAG	Aroclor-1248 ug/KG	FLAG	Aroclor-1254 ug/KG	FLAG	Aroclor-1260 ug/KG	FLAG	Total PCB ug/Kg
fp04-1	E2CA8	79	UJ	160	UJ	79	UJ	79	UJ	240		260		79	UJ	976
fp04-2	E2CA9	66	U	130	U	66	U	66	U	190		130		66	U	714
fp04-3	E2CB0	79	U	160	U	79	U	79	U	79	U	79	U	79	U	634
fp05-1	E2CB1	520	U	1100	U	520	U	520	U	11000		520	U	520	U	14700
fp05-2	E2CB2	530	U	1100	U	530	U	530	U	11000		530	U	530	U	14750
fp05-3	E2CB3	46	U	94	U	46	U	160		46	U	46	U	46	U	484
fp06-1	E2CB4	490	U	1000	U	490	U	490	U	4500		5000		490	U	12460
fp06-2	E2CB5	530	U	1100	U	530	U	530	U	8500		3100		530	U	14820
fp06-3	E2CB6	540	U	1100	U	540	U	540	U	17000		3300		540	U	23560
fp07-1	E2CB7	49	U	99	U	49	U	49	U	49	U	49	U	49	U	393
fp07-2	E2CB8	41	UJ	83	UJ	41	UJ	41	UJ	41	UJ	41	UJ	41	UJ	329
fp07-3	E2CB9	41	UJ	82	UJ	41	UJ	41	UJ	41	UJ	41	UJ	41	UJ	328
fp08-1	E2CC0	600	U	1200	U	600	U	600	U	15000		600	U	600	U	19200
fp08-2	E2CC1	620	U	1300	U	620	U	21000		620	U	620	U	620	U	25400
fp08-3	E2CC2	92	U	190	U	92	U	660		92	U	92	U	92	U	1310
fp09-1	E2CC3	200	U	410	U	200	U	200	U	200	U	200	U	200	U	1610
fp09-2	E2CC4	38	UJ	77	UJ	38	UJ	38	UJ	160		73		38	UJ	462
fp09-3	E2CC5	200	U	420	U	200	U	200	U	200	U	200	U	200	U	1620
fp10-1	E2CC6	250	U	510	U	250	U	250	U	250	U	250	U	250	U	2010
fp10-2	E2CC7	70	U	140	U	70	U	70	U	70	U	70	U	70	U	560
fp10-3	E2CC8	190	U	390	U	190	U	190	U	190	U	190	U	190	U	1530
fp11-1	E2CC9	110	U	220	U	110	U	110	U	270		470		110	U	1400
fp11-2	E2CD0	97	U	200	U	97	U	97	U	180		340		97	U	1108
fp11-3	E2CD1	42	U	86	U	42	U	42	U	42	U	42	U	42	U	338
fp12-1	E2CD2	40	U	82	U	40	U	40	U	41		66		40	U	349
fp12-2	E2CD3	160	U	330	U	160	U	160	U	670		610		160	U	2250
fp12-3	E2CD4	42	UJ	86	UJ	42	UJ	42	UJ	42	UJ	42	UJ	42	UJ	338
fp13-1	E2CD5	120	U	240	U	120	U	120	U	260		120	U	120	U	1100
fp13-2	E2CD6	59	U	120	U	59	U	59	U	59	U	59	U	59	U	474
fp13-3	E2CD7	45	U	91	U	45	U	45	U	45	U	45	U	45	U	361
fp14-1	E2CD8	82	U	170	U	82	U	82	U	160		350		82	U	1008
fp14-2	E2CD9	48	U	97	U	48	U	48	U	48	U	48	U	48	U	385
fp14-3	E2CE0	40	U	81	U	40	U	40	U	40	U	40	U	40	U	321
fp15-1	E2CE1	640	U	1300	U	640	U	640	U	3700		4400		640	U	11960
fp15-2	E2CE2	610	U	1200	U	610	U	610	U	7300		4100		610	U	15040
fp15-3	E2CE3	68	UJ	140	UJ	68	UJ	68	UJ	2800		1400		68	UJ	4612
fp16-1	E2CE4	47	U	95	U	47	U	47	U	640		1700		47	U	2623
fp16-2	E2CE5	44	U	89	U	44	U	44	U	470		1300		44	U	2035
fp16-3	E2CE6	53	U	110	U	53	U	53	U	1100		1700		53	U	3122
fp17-1	E2CE7	480	U	980	U	480	U	480	U	11000		5200		480	U	19100
fp17-2	E2CE8	510	U	1000	U	510	U	510	U	8000		4500		510	U	15540
fp17-3	E2CE9	670	U	1400	U	670	U	670	U	34000		4700		670	U	42780
fp18-1	E2CF0	120	U	250	U	120	U	120	U	120	U	120	U	120	U	970
fp18-2	E2CF1	64	U	130	U	64	U	64	U	64	U	64	U	64	U	514
fp18-3	E2CF2	220	U	450	U	220	U	220	U	220	U	220	U	220	U	1770
fp19-1	E2CF3	190	U	390	U	190	U	190	U	190	U	190	U	190	U	1530
fp19-2	E2CF4	53	U	110	U	53	U	53	U	53	U	53	U	53	U	428
fp19-3	E2CF5	200	U	410	U	200	U	200	U	200	U	200	U	200	U	1610
fp20-1	E2CF6	150	U	300	U	150	U	150	U	150	U	72		150	U	1122
fp20-2	E2CF7	150	U	300	U	150	U	150	U	150	U	150	U	150	U	1200
fp20-3	E2CF8	58	U	120	U	58	U	58	U	58	U	58	U	58	U	468
fp21-1	E2CF9	58	U	120	U	58	U	58	U	43		47		58	U	442
fp21-2	E2CG0	160	U	330	U	160	U	160	U	160	U	160	U	160	U	1290
fp21-3	E2CG1	150	U	300	U	150	U	150	U	150	U	150	U	150	U	1200
fp22-1	E2CG2	270	U	550	U	270	U	270	U	270	U	270	U	270	U	2170
fp22-2	E2CG3	73	U	150	U	73	U	73	U	73	U	73	U	73	U	588
fp22-3	E2CG4	250	U	510	U	250	U	250	U	250	U	250	U	250	U	2010
fp23-1	E2CG5	140	U	290	U	140	U	810		140	U	140	U	140	U	1800
fp23-2	E2CG6	150	U	300	U	150	U	890		150	U	150	U	150	U	1940
fp23-3	E2CG7	45	U	92	U	45	U	45	U	45	U	45	U	45	U	362

LOCATION	SAMPLE	Aroclor-1016 ug/KG	FLAG	Aroclor-1221 ug/KG	FLAG	Aroclor-1232 ug/KG	FLAG	Aroclor-1242 ug/KG	FLAG	Aroclor-1248 ug/KG	FLAG	Aroclor-1254 ug/KG	FLAG	Aroclor-1260 ug/KG	FLAG	Total PCB ug/Kg
fp24-1	E2CG8	200	U	410	U	200	U	200	U	200	U	200	U	200	U	1610
fp24-2	E2CG9	59	U	120	U	59	U	59	U	59	U	59	U	59	U	474
fp24-3	E2CH0	160	U	320	U	160	U	160	U	160	U	160	U	160	U	1280
fp25-1	E2CH1	80	U	160	U	80	U	80	U	80	U	88	U	80	U	648
fp25-2	E2CH2	43	U	87	U	43	U	43	U	43	U	43	U	43	U	345
fp25-3	E2CH3	41	U	84	U	41	U	41	U	41	U	41	U	41	U	330
fp26-1	E2CH4	72	U	150	U	72	U	72	U	440		1000		72	U	1878
fp26-2	E2CH5	72	U	150	U	72	U	72	U	480		880		72	U	1798
fp26-3	E2CH6	57	U	120	U	57	U	57	U	730		360		57	U	1438
fp27-1	E2CH7	250	U	510	U	250	U	250	U	250	U	250	U	250	U	2010
fp27-2	E2CH8	220	U	440	U	220	U	220	U	220	U	220	U	220	U	1760
fp27-3	E2CH9	54	U	110	U	54	U	54	U	54	U	54	U	54	U	434
fp28-1	E2CJ0	55	U	110	U	55	U	55	U	55	U	55	U	55	U	440
fp28-2	E2CJ1	49	U	99	U	49	U	49	U	49	U	49	U	49	U	393
fp28-3	E2CJ2	52	U	110	U	52	U	52	U	52	U	52	U	52	U	422
fp29-1	E2CJ3	190	U	390	U	190	U	190	U	140		410		190	U	1700
fp29-2	E2CJ4	51	U	100	U	51	U	51	U	51	U	51	U	51	U	406
fp29-3	E2CJ5	53	U	110	U	53	U	53	U	53	U	53	U	53	U	428
fp30-1	E2CJ6	42	U	85	U	42	U	42	U	42	U	42	U	42	U	337
fp30-2	E2CJ7	38	U	77	U	38	U	38	U	38	U	38	U	38	U	305
fp30-3	E2CJ8	39	U	80	U	39	U	39	U	39	U	39	U	39	U	314
fp31-1	E2CJ9	110	U	220	U	110	U	110	U	110	U	110	U	110	U	880
fp31-2	E2CK0	250	U	520	U	250	U	250	U	250	U	250	U	250	U	2020
fp31-3	E2CK1	220	U	440	U	220	U	220	U	220	U	220	U	220	U	1760
fp32-1	E2CK2	80	U	160	U	80	U	80	U	470		80	U	230	U	1180
fp32-2	E2CK3	52	U	100	U	52	U	52	U	52	U	52	U	52	U	412
fp32-3	E2CK4	48	U	97	U	48	U	48	U	48	U	48	U	48	U	385
fp33-1	E2CK5	180	U	370	U	180	U	180	U	180	U	180	U	180	U	1450
fp33-2	E2CK6	180	U	370	U	180	U	180	U	180	U	180	U	180	U	1450
fp33-3	E2CK7	40	U	82	U	40	U	40	U	40	U	40	U	40	U	322
fp34-1	E2CK8	50	U	100	U	100	U	100	U	100	U	100	U	100	U	650
fp34-2	E2CK9	38	U	77	U	38	U	38	U	38	U	38	U	38	U	305
fp34-3	E2CL0	36	U	73	U	36	U	36	U	36	U	36	U	36	U	289
sd01-1	E2CL7	40	U	82	U	40	U	40	U	96		43		40	U	381
sd01-2	E2CL8	39	U	80	U	39	U	39	U	90		39	U	39	U	365
sd02-1	E2CL9	190	U	390	U	190	U	190	U	190	U	190	U	190	U	1530
sd02-2	E2CM0	190	U	390	U	190	U	190	U	190	U	190	U	190	U	1530
sd03-1	E2CM1	110	U	220	U	110	U	110	U	380		110	U	210	U	1250
sd03-2	E2CM2	47	U	96	U	47	U	47	U	150		47	U	73	U	507
sd04-1	E2CM3	60	U	120	U	60	U	60	U	60	U	60	U	60	U	480
sd04-2	E2CM4	37	U	74	U	37	U	37	U	37	U	37	U	37	U	296
sd05-1	E2CM5	130	U	260	U	130	U	130	U	130	U	130	U	130	U	1040
sd05-2	E2CM6	41	U	83	U	41	U	41	U	41	U	41	U	41	U	329
sd06-1	E2CM7	40	U	82	U	40	U	40	U	40	U	40	U	40	U	322
sd06-2	E2CM8	41	U	83	U	41	U	41	U	41	U	45		41	U	333
sd07-1	E2CM9	91	U	190	U	91	U	91	U	2300		420		91	U	3274
sd07-2	E2CN0	100	U	210	U	100	U	100	U	6300		1400		100	U	8310
sd08-1	E2CN1	66	U	130	U	66	U	66	U	250		280		66	U	924
sd08-2	E2CN2	38	U	78	U	38	U	38	U	38	U	48		38	U	316
sd09-1	E2CN3	41	U	83	U	41	U	41	U	41	U	41	U	41	U	329
sd09-2	E2CN4	36	U	74	U	36	U	36	U	29		36	U	36	U	283
sd10-1	E2CN5	130	U	260	U	130	U	130	U	130	U	130	U	130	U	1040
sd10-2	E2CN6	54	U	110	U	54	U	54	U	54	U	54	U	54	U	434
sd11-1	E2CN7	57	U	120	U	57	U	57	U	57	U	57	U	57	U	462
sd11-2	E2CN8	36	U	74	U	36	U	36	U	36	U	36	U	36	U	290
sd12-1	E2CN9	160	U	320	U	160	U	160	U	160	U	160	U	160	U	1280
sd12-2	E2CP0	47	U	95	U	47	U	47	U	47	U	71		47	U	401
sd13-1	E2CP1	39	U	80	U	39	U	39	U	39	U	130		39	U	405
sd13-2	E2CP2	41	U	83	U	41	U	41	U	41	U	48		41	U	336
sd14-1	E2CP3	82	U	170	U	82	U	82	U	59		74		82	U	631

LOCATION	SAMPLE	Aroclor-1016 ug/KG	FLAG	Aroclor-1221 ug/KG	FLAG	Aroclor-1232 ug/KG	FLAG	Aroclor-1242 ug/KG	FLAG	Aroclor-1248 ug/KG	FLAG	Aroclor-1254 ug/KG	FLAG	Aroclor-1260 ug/KG	FLAG	Total PCB ug/Kg
sd14-2	E2CP4	39	U	80	U	39	U	39	U	39	U	39	U	39	U	314
sd15-1	E2CP5	39	U	79	U	39	U	39	U	23		16		39	U	274
sd15-2	E2CP6	34	U	69	U	34	U	34	U	19		34	U	34	U	258
sd16-1	E2CP7	55	U	110	U	55	U	55	U	200		1000		55	U	1530
sd16-2	E2CP8	34	U	69	U	34	U	34	U	34	U	16		34	U	255

TABLE 2
12th Street Landfill Sample Summary Fall 2003

LOCATION	SAMPLE	MATRIX	SAMPLE DATE	X	Y	START DEPT	END DEPTH	DEPTH UNIT	MOISTURE	PH	DILUTION	TOTAL PCB ¹
exp01-1	E2CQ1	Soil	9/17/2003	12771927.76400	351360.64394	0.00	6.00	inch	10.00	7.40	1.00	0.90000
exp01-2	E2CQ2	Soil	9/17/2003	12771927.76400	351360.64394	6.00	12.00	inch	12.00	7.40	1.00	1.91000
exp01-3	E2CQ3	Soil	9/17/2003	12771927.76400	351360.64394	12.00	24.00	inch	11.00	7.10	1.00	1.19000
exp02-1	E2CQ4	Soil	9/17/2003	12771921.21200	351296.00823	0.00	6.00	inch	21.00	6.70	10.00	8.90000
exp02-2	E2CQ5	Soil	9/17/2003	12771921.21200	351296.00823	6.00	12.00	inch	20.00	6.50	10.00	10.50000
exp02-3	E2CQ6	Soil	9/17/2003	12771921.21200	351296.00823	12.00	24.00	inch	6.00	6.60	1.00	0.84000
exp03-1	E2CQ7	Soil	9/17/2003	12771927.14300	351138.21543	0.00	6.00	inch	6.00	8.30	1.00	0.01750
exp03-2	E2CQ8	Soil	9/17/2003	12771927.14300	351138.21543	6.00	12.00	inch	11.00	7.50	1.00	0.01850
exp03-3	E2CQ9	Soil	9/17/2003	12771927.14300	351138.21543	12.00	18.00	inch	8.00	7.30	1.00	0.01750
exp04-1	E2CR0	Soil	9/17/2003	12771701.51100	351215.26883	0.00	6.00	inch	33.00	6.60	1.00	0.02450
exp04-2	E2CR1	Soil	9/17/2003	12771701.51100	351215.26883	6.00	12.00	inch	11.00	6.30	1.00	0.01850
exp04-3	E2CR2	Soil	9/17/2003	12771701.51100	351215.26883	12.00	24.00	inch	9.00	6.10	1.00	0.01800
exp05-1	E2CR3	Soil	9/17/2003	12771850.50100	351228.88793	0.00	6.00	inch	9.00	6.80	1.00	0.01800
exp05-2	E2CR4	Soil	9/17/2003	12771850.50100	351228.88793	6.00	12.00	inch	10.00	6.50	1.00	0.01800
exp05-3	E2CR5	Soil	9/17/2003	12771850.50100	351228.88793	12.00	24.00	inch	3.00	6.10	1.00	0.01650
exp06-2	E2CR7	Soil	9/17/2003	12771781.52500	351219.53174	6.00	12.00	inch	6.00	5.60	1.00	0.01750
exp06-3	E2CR8	Soil	9/17/2003	12771781.52500	351219.53174	12.00	18.00	inch	8.00	5.60	1.00	0.01800
exp07-1	E2CR9	Soil	9/17/2003	12771941.45900	351430.64171	0.00	6.00	inch	8.00	7.10	1.00	0.03600
exp07-2	E2CS0	Soil	9/17/2003	12771941.45900	351430.64171	6.00	12.00	inch	5.00	7.50	1.00	0.01750
exp07-3	E2CS0	Soil	9/17/2003	12771941.45900	351430.64171	12.00	24.00	inch	5.00	7.90	1.00	0.01700
exp08-1	E2CS2	Soil	9/17/2003	12771691.28800	351076.26088	0.00	6.00	inch	7.00	5.90	1.00	0.56000
exp08-2	E2CS3	Soil	9/17/2003	12771691.28800	351076.26088	6.00	12.00	inch	4.00	8.50	1.00	0.04800
exp08-3	E2CS4	Soil	9/17/2003	12771691.28800	351076.26088	12.00	24.00	inch	4.00	7.70	1.00	0.06600
exp09-1	E2CS5	Soil	9/17/2003	12771766.64600	351132.43977	0.00	6.00	inch	9.00	8.00	1.00	0.01800
exp09-2	E2CS6	Soil	9/17/2003	12771766.64600	351132.43977	6.00	12.00	inch	9.00	8.40	1.00	0.01800
exp09-3	E2CS7	Soil	9/17/2003	12771766.64600	351132.43977	12.00	24.00	inch	5.00	8.30	1.00	0.01750
exp10-1	E2CS8	Soil	9/17/2003	12771876.35700	351091.27292	0.00	6.00	inch	10.00	6.40	1.00	0.01850
exp10-2	E2CS9	Soil	9/17/2003	12771876.35700	351091.27292	6.00	12.00	inch	6.00	6.60	1.00	0.01750
exp10-3	E2CT0	Soil	9/17/2003	12771876.35700	351091.27292	12.00	24.00	inch	7.00	6.60	1.00	0.01750
exp11-1	E2CT1	Soil	9/17/2003	12771701.45000	351263.76836	0.00	6.00	inch	5.00	7.50	1.00	0.01750
exp11-2	E2CT2	Soil	9/17/2003	12771701.45000	351263.76836	6.00	12.00	inch	6.00	6.90	1.00	0.01750
exp11-3	E2CT3	Soil	9/17/2003	12771701.45000	351263.76836	12.00	24.00	inch	4.00	6.60	1.00	0.01700

LOCATION	SAMPLE	MATRIX	SAMPLE DATE	X	Y	START DEPT	END DEPTH	DEPTH UNIT	MOISTURE	PH	DILUTION	TOTAL PCB ¹
exp12-1	E2CT4	Soil	9/17/2003	12771811.79900	351282.43100	0.00	6.00	inch	13.00	6.10	1.00	0.01900
exp12-2	E2CT5	Soil	9/17/2003	12771811.79900	351282.43100	6.00	12.00	inch	8.00	6.00	1.00	0.01800
exp12-3	E2CT6	Soil	9/17/2003	12771811.79900	351282.43100	12.00	24.00	inch	5.00	8.70	1.00	0.01700
exp13-1	E2CT7	Soil	9/17/2003	12771878.94100	351300.94382	0.00	6.00	inch	30.00	7.40	10.00	9.10000
exp13-2	E2CT8	Soil	9/17/2003	12771878.94100	351300.94382	6.00	12.00	inch	29.00	7.20	10.00	13.70000
exp13-3	E2CT9	Soil	9/17/2003	12771878.94100	351300.94382	12.00	24.00	inch	17.00	7.20	10.00	6.40000
exp14-1	E2CW0	Soil	9/17/2003	12771948.29400	351884.05704	0.00	6.00	inch	39.00	7.10	1.00	0.68000
exp14-2	E2CW1	Soil	9/17/2003	12771948.29400	351884.05704	6.00	12.00	inch	20.00	7.70	1.00	0.42000
exp14-3	E2CW2	Soil	9/17/2003	12771948.29400	351884.05704	12.00	24.00	inch	26.00	7.30	1.00	0.10600
exp15-1	E2CW3	Soil	9/17/2003	12771939.22100	351538.67777	0.00	6.00	inch	10.00	7.00	1.00	0.38000
exp15-2	E2CW4	Soil	9/17/2003	12771939.22100	351538.67777	6.00	12.00	inch	9.00	7.00	1.00	0.64000
exp15-3	E2CW5	Soil	9/17/2003	12771939.22100	351538.67777	12.00	24.00	inch	7.00	7.10	1.00	0.20600
exp16-1	E2CW6	Soil	9/17/2003	12771948.29400	351678.71112	0.00	6.00	inch	20.00	7.50	1.00	0.37000
exp16-2	E2CW7	Soil	9/17/2003	12771948.29400	351678.71112	6.00	12.00	inch	15.00	7.30	1.00	0.18800
exp16-3	E2CW8	Soil	9/17/2003	12771948.29400	351678.71112	12.00	24.00	inch	14.00	7.50	1.00	0.01900
fp01-1	E2C99	Soil	9/17/2003	12771735.47600	351717.41260	0.00	6.00	inch	78.00	8.50	1.00	1.63000
fp01-2	E2CA0	Soil	9/17/2003	12771735.47600	351717.41260	6.00	12.00	inch	39.00	7.80	1.00	0.02650
fp01-3	E2CA1	Soil	9/17/2003	12771735.47600	351717.41260	12.00	22.00	inch	23.00	7.30	1.00	0.02100
fp02-1	E2CA2	Soil	9/29/2003	12771311.21200	351444.49422	0.00	6.00	inch	33.00	8.30	1.00	0.02450
fp02-2	E2CA3	Soil	9/29/2003	12771311.21200	351444.49422	6.00	12.00	inch	48.00	8.20	1.00	2.70000
fp02-3	E2CA4	Soil	9/29/2003	12771311.21200	351444.49422	12.00	24.00	inch	51.00	6.90	1.00	6.90000
fp03-1	E2CA5	Soil	9/16/2003	12771541.11500	351699.01777	0.00	6.00	inch	57.00	6.70	1.00	0.03800
fp03-2	E2CA6	Soil	9/16/2003	12771541.11500	351699.01777	6.00	12.00	inch	21.00	6.30	1.00	0.02050
fp03-3	E2CA7	Soil	9/16/2003	12771541.11500	351699.01777	12.00	20.00	inch	19.00	6.20	1.00	0.02050
fp04-1	E2CA8	Soil	9/29/2003	12771739.36700	351693.16062	0.00	6.00	inch	58.00	8.10	1.00	0.50000
fp04-2	E2CA9	Soil	9/29/2003	12771739.36700	351693.16062	6.00	12.00	inch	51.00	7.60	1.00	0.32000
fp04-3	E2CB0	Soil	9/29/2003	12771739.36700	351693.16062	12.00	24.00	inch	59.00	7.70	1.00	0.03950
fp05-1	E2CB1	Soil	9/16/2003	12771540.45500	351655.72272	0.00	6.00	inch	37.00	6.10	10.00	11.00000
fp05-2	E2CB2	Soil	9/16/2003	12771540.45500	351655.72272	6.00	12.00	inch	38.00	6.20	10.00	11.00000
fp05-3	E2CB3	Soil	9/16/2003	12771540.45500	351655.72272	12.00	24.00	inch	30.00	5.70	1.00	0.16000
fp06-1	E2CB4	Soil	9/29/2003	12771312.97800	351390.12548	0.00	6.00	inch	33.00	7.70	10.00	9.50000
fp06-2	E2CB5	Soil	9/29/2003	12771312.97800	351390.12548	6.00	12.00	inch	38.00	7.90	10.00	11.60000
fp06-3	E2CB6	Soil	9/29/2003	12771312.97800	351390.12548	12.00	24.00	inch	39.00	8.10	10.00	20.30000
fp07-1	E2CB7	Soil	9/29/2003	12771693.00500	351696.76764	0.00	6.00	inch	32.00	7.80	1.00	0.02450
fp07-2	E2CB8	Soil	9/29/2003	12771693.00500	351696.76764	6.00	12.00	inch	19.00	7.40	1.00	0.02050

LOCATION	SAMPLE	MATRIX	SAMPLE DATE	X	Y	START DEPT	END DEPTH	DEPTH UNIT	MOISTURE	PH	DILUTION	TOTAL PCB ¹
fp07-3	E2CB9	Soil	9/29/2003	12771693.00500	351696.76764	12.00	24.00	inch	19.00	7.30	1.00	0.02050
fp08-1	E2CC0	Soil	9/16/2003	12771495.22400	351647.41628	0.00	6.00	inch	45.00	5.90	10.00	15.00000
fp08-2	E2CC1	Soil	9/16/2003	12771495.22400	351647.41628	6.00	12.00	inch	48.00	5.20	10.00	21.00000
fp08-3	E2CC2	Soil	9/16/2003	12771495.22400	351647.41628	12.00	20.00	inch	64.00	5.70	1.00	0.66000
fp09-1	E2CC3	Soil	9/29/2003	12771268.40300	351395.76554	0.00	6.00	inch	84.00	7.80	1.00	0.10000
fp09-2	E2CC4	Soil	9/29/2003	12771268.40300	351395.76554	6.00	12.00	inch	13.00	8.00	1.00	0.23300
fp09-3	E2CC5	Soil	9/29/2003	12771268.40300	351395.76554	12.00	24.00	inch	84.00	8.10	1.00	0.10000
fp10-1	E2CC6	Soil	9/29/2003	12771266.95400	351440.77212	0.00	6.00	inch	87.00	7.60	1.00	0.12500
fp10-2	E2CC7	Soil	9/29/2003	12771266.95400	351440.77212	6.00	12.00	inch	53.00	8.00	1.00	0.03500
fp10-3	E2CC8	Soil	9/29/2003	12771266.95400	351440.77212	12.00	22.00	inch	83.00	7.70	1.00	0.09500
fp11-1	E2CC9	Soil	9/29/2003	12771692.17000	351716.90744	0.00	6.00	inch	70.00	7.90	1.00	0.74000
fp11-2	E2CD0	Soil	9/29/2003	12771692.17000	351716.90744	6.00	12.00	inch	66.00	7.50	1.00	0.52000
fp11-3	E2CD1	Soil	9/29/2003	12771692.17000	351716.90744	12.00	24.00	inch	22.00	6.60	1.00	0.02100
fp12-1	E2CD2	Soil	9/29/2003	12771497.55700	351693.92263	0.00	6.00	inch	18.00	8.00	1.00	0.10700
fp12-2	E2CD3	Soil	9/29/2003	12771497.55700	351693.92263	6.00	12.00	inch	80.00	6.30	1.00	1.28000
fp12-3	E2CD4	Soil	9/29/2003	12771497.55700	351693.92263	12.00	24.00	inch	22.00	6.60	1.00	0.02100
fp13-1	E2CD5	Soil	9/16/2003	12771613.60500	351763.93351	0.00	6.00	inch	72.00	5.80	1.00	0.26000
fp13-2	E2CD6	Soil	9/16/2003	12771613.60500	351763.93351	6.00	12.00	inch	44.00	8.20	1.00	0.02950
fp13-3	E2CD7	Soil	9/16/2003	12771613.60500	351763.93351	12.00	22.00	inch	27.00	7.10	1.00	0.02250
fp14-1	E2CD8	Soil	9/29/2003	12771798.91100	351785.88105	0.00	6.00	inch	60.00	7.80	1.00	0.51000
fp14-2	E2CD9	Soil	9/29/2003	12771798.91100	351785.88105	6.00	12.00	inch	31.00	7.40	1.00	0.02400
fp14-3	E2CE0	Soil	9/29/2003	12771798.91100	351785.88105	12.00	24.00	inch	18.00	8.40	1.00	0.02000
fp15-1	E2CE1	Soil	9/29/2003	12771347.79900	351520.37473	0.00	6.00	inch	49.00	7.90	10.00	8.10000
fp15-2	E2CE2	Soil	9/29/2003	12771347.79900	351520.37473	6.00	12.00	inch	46.00	8.00	10.00	11.40000
fp15-3	E2CE3	Soil	9/29/2003	12771347.79900	351520.37473	12.00	24.00	inch	52.00	7.70	1.00	4.20000
fp16-1	E2CE4	Soil	9/29/2003	12771289.70900	351284.54612	0.00	6.00	inch	30.00	7.90	1.00	2.34000
fp16-2	E2CE5	Soil	9/29/2003	12771289.70900	351284.54612	6.00	12.00	inch	25.00	8.30	10.00	1.77000
fp16-3	E2CE6	Soil	9/29/2003	12771289.70900	351284.54612	12.00	24.00	inch	38.00	7.90	1.00	2.80000
fp17-1	E2CE7	Soil	9/29/2003	12771427.00700	351580.71986	0.00	6.00	inch	32.00	7.70	10.00	16.20000
fp17-2	E2CE8	Soil	9/29/2003	12771427.00700	351580.71986	6.00	12.00	inch	36.00	7.60	10.00	12.50000
fp17-3	E2CE9	Soil	9/29/2003	12771427.00700	351580.71986	12.00	24.00	inch	51.00	8.10	10.00	38.70000
fp18-1	E2CF0	Soil	9/16/2003	12771201.35400	351331.94584	0.00	6.00	inch	73.00	6.90	1.00	0.06000
fp18-2	E2CF1	Soil	9/16/2003	12771201.35400	351331.94584	6.00	12.00	inch	49.00	8.00	1.00	0.03200
fp18-3	E2CF2	Soil	9/16/2003	12771201.35400	351331.94584	12.00	20.00	inch	85.00	6.00	1.00	0.11000
fp19-1	E2CF3	Soil	9/16/2003	12771155.78200	351419.29887	0.00	6.00	inch	83.00	6.30	1.00	0.09500

LOCATION	SAMPLE	MATRIX	SAMPLE DATE	X	Y	START DEPT	END DEPTH	DEPTH UNIT	MOISTURE	PH	DILUTION	TOTAL PCB ¹
fp19-2	E2CF4	Soil	9/16/2003	12771155.78200	351419.29887	6.00	12.00	inch	38.00	7.30	1.00	0.02650
fp19-3	E2CF5	Soil	9/16/2003	12771155.78200	351419.29887	12.00	20.00	inch	84.00	5.80	1.00	0.10000
fp20-1	E2CF6	Soil	9/29/2003	12771389.12800	351672.23483	0.00	6.00	inch	78.00	7.80	1.00	0.07200
fp20-2	E2CF7	Soil	9/29/2003	12771389.12800	351672.23483	6.00	12.00	inch	78.00	7.40	1.00	0.07500
fp20-3	E2CF8	Soil	9/29/2003	12771389.12800	351672.23483	12.00	20.00	inch	43.00	7.80	1.00	0.02900
fp21-1	E2CF9	Soil	9/29/2003	12771426.16100	351763.14826	0.00	6.00	inch	43.00	8.10	1.00	0.09000
fp21-2	E2CG0	Soil	9/29/2003	12771426.16100	351763.14826	6.00	12.00	inch	80.00	6.40	1.00	0.08000
fp21-3	E2CG1	Soil	9/29/2003	12771426.16100	351763.14826	12.00	24.00	inch	78.00	6.50	1.00	0.07500
fp22-1	E2CG2	Soil	9/29/2003	12771195.92700	351511.69950	0.00	6.00	inch	88.00	7.50	1.00	0.13500
fp22-2	E2CG3	Soil	9/29/2003	12771195.92700	351511.69950	6.00	12.00	inch	55.00	7.80	1.00	0.03650
fp22-3	E2CG4	Soil	9/29/2003	12771195.92700	351511.69950	12.00	24.00	inch	87.00	7.20	1.00	0.12500
fp23-1	E2CG5	Soil	9/16/2003	12771519.05000	351799.27177	0.00	6.00	inch	77.00	6.40	1.00	0.81000
fp23-2	E2CG6	Soil	9/16/2003	12771519.05000	351799.27177	6.00	12.00	inch	78.00	6.00	1.00	0.89000
fp23-3	E2CG7	Soil	9/16/2003	12771519.05000	351799.27177	12.00	20.00	inch	28.00	8.90	1.00	0.02250
fp24-1	E2CG8	Soil	9/29/2003	12771290.18700	351549.58625	0.00	6.00	inch	84.00	7.90	1.00	0.10000
fp24-2	E2CG9	Soil	9/29/2003	12771290.18700	351549.58625	6.00	12.00	inch	44.00	8.10	1.00	0.02950
fp24-3	E2CH0	Soil	9/29/2003	12771290.18700	351549.58625	12.00	24.00	inch	79.00	7.70	1.00	0.08000
fp25-1	E2CH1	Soil	9/29/2003	12771752.29000	351904.55206	0.00	6.00	inch	59.00	6.90	1.00	0.08800
fp25-2	E2CH2	Soil	9/29/2003	12771752.29000	351904.55206	6.00	12.00	inch	23.00	7.20	1.00	0.02150
fp25-3	E2CH3	Soil	9/29/2003	12771752.29000	351904.55206	12.00	24.00	inch	20.00	8.30	1.00	0.02050
fp26-1	E2CH4	Soil	9/29/2003	12771843.08400	351677.11483	0.00	6.00	inch	54.00	8.00	1.00	1.44000
fp26-2	E2CH5	Soil	9/29/2003	12771843.08400	351677.11483	6.00	12.00	inch	54.00	8.00	1.00	1.36000
fp26-3	E2CH6	Soil	9/29/2003	12771843.08400	351677.11483	12.00	24.00	inch	43.00	7.30	1.00	1.09000
fp27-1	E2CH7	Soil	9/29/2003	12771191.78100	351675.13418	0.00	6.00	inch	87.00	7.70	1.00	0.12500
fp27-2	E2CH8	Soil	9/29/2003	12771191.78100	351675.13418	6.00	12.00	inch	85.00	6.50	1.00	0.11000
fp27-3	E2CH9	Soil	9/29/2003	12771191.78100	351675.13418	12.00	24.00	inch	39.00	7.60	1.00	0.02700
fp28-1	E2CJ0	Soil	9/29/2003	12770961.48100	351420.33445	0.00	6.00	inch	41.00	8.40	1.00	0.02750
fp28-2	E2CJ1	Soil	9/29/2003	12770961.48100	351420.33445	6.00	12.00	inch	33.00	8.10	1.00	0.02450
fp28-3	E2CJ2	Soil	9/29/2003	12770961.48100	351420.33445	12.00	24.00	inch	38.00	7.90	1.00	0.02600
fp29-1	E2CJ3	Soil	9/29/2003	12771286.47100	351903.12743	0.00	6.00	inch	83.00	7.90	1.00	0.55000
fp29-2	E2CJ4	Soil	9/29/2003	12771286.47100	351903.12743	6.00	12.00	inch	36.00	6.40	1.00	0.02550
fp29-3	E2CJ5	Soil	9/29/2003	12771286.47100	351903.12743	12.00	24.00	inch	38.00	6.60	1.00	0.02650
fp30-1	E2CJ6	Soil	9/16/2003	12771484.72300	351924.47657	0.00	6.00	inch	22.00	7.30	1.00	0.02100
fp30-2	E2CJ7	Soil	9/16/2003	12771484.72300	351924.47657	6.00	12.00	inch	13.00	6.80	1.00	0.01900
fp30-3	E2CJ8	Soil	9/16/2003	12771484.72300	351924.47657	12.00	24.00	inch	17.00	6.50	1.00	0.01950

LOCATION	SAMPLE	MATRIX	SAMPLE DATE	X	Y	START DEPT	END DEPTH	DEPTH UNIT	MOISTURE	PH	DILUTION	TOTAL PCB ¹
fp31-1	E2CJ9	Soil	9/29/2003	12771055.75600	351650.44962	0.00	6.00	inch	70.00	7.90	1.00	0.05500
fp31-2	E2CK0	Soil	9/29/2003	12771055.75600	351650.44962	6.00	12.00	inch	87.00	5.50	1.00	0.12500
fp31-3	E2CK1	Soil	9/29/2003	12771055.75600	351650.44962	12.00	24.00	inch	85.00	6.90	1.00	0.11000
fp32-1	E2CK2	Soil	9/16/2003	12771716.81500	352021.11769	0.00	6.00	inch	59.00	5.60	1.00	0.47000
fp32-2	E2CK3	Soil	9/16/2003	12771716.81500	352021.11769	6.00	12.00	inch	37.00	5.50	1.00	0.02600
fp32-3	E2CK4	Soil	9/16/2003	12771716.81500	352021.11769	12.00	20.00	inch	32.00	5.70	1.00	0.02400
fp33-1	E2CK5	Soil	9/29/2003	12771291.51200	351745.98534	0.00	6.00	inch	82.00	7.70	1.00	0.09000
fp33-2	E2CK6	Soil	9/29/2003	12771291.51200	351745.98534	6.00	12.00	inch	82.00	6.20	1.00	0.09000
fp33-3	E2CK7	Soil	9/29/2003	12771291.51200	351745.98534	12.00	20.00	inch	19.00	7.40	1.00	0.02000
fp34-1	E2CK8	Soil	9/16/2003	12771521.33200	351998.21885	0.00	6.00	inch	35.00	5.50	1.00	0.05000
fp34-2	E2CK9	Soil	9/16/2003	12771521.33200	351998.21885	6.00	12.00	inch	14.00	5.30	1.00	0.01900
fp34-3	E2CL0	Soil	9/16/2003	12771521.33200	351998.21885	12.00	24.00	inch	9.00	7.30	1.00	0.01800
sd01-1	E2CL7	Soil	9/16/2003	12771991.07000	351670.64601	0.00	6.00	inch	19.00	7.90	1.00	0.13900
sd01-2	E2CL8	Soil	9/16/2003	12771991.07000	351670.64601	6.00	10.00	inch	17.00	8.30	1.00	0.09000
sd02-1	E2CL9	Soil	9/15/2003	12772037.62300	351111.48868	0.00	6.00	inch	83.00	6.90	1.00	0.09500
sd02-2	E2CM0	Soil	9/15/2003	12772037.62300	351111.48868	6.00	12.00	inch	83.00	6.60	1.00	0.09500
sd03-1	E2CM1	Soil	9/15/2003	12771962.47400	351293.58106	0.00	6.00	inch	70.00	6.30	1.00	0.38000
sd03-2	E2CM2	Soil	9/15/2003	12771962.47400	351293.58106	6.00	12.00	inch	31.00	6.00	10.00	0.22300
sd04-1	E2CM3	Soil	9/15/2003	12772024.04900	351294.64570	0.00	6.00	inch	46.00	6.00	1.00	0.03000
sd04-2	E2CM4	Soil	9/15/2003	12772024.04900	351294.64570	6.00	12.00	inch	11.00	7.60	1.00	0.01850
sd05-1	E2CM5	Soil	9/16/2003	12772081.98100	351294.99859	0.00	6.00	inch	75.00	7.00	1.00	0.06500
sd05-2	E2CM6	Soil	9/16/2003	12772081.98100	351294.99859	6.00	10.00	inch	19.00	6.30	1.00	0.02050
sd06-1	E2CM7	Soil	9/16/2003	12771978.34000	351444.83466	0.00	6.00	inch	18.00	8.50	1.00	0.02000
sd06-2	E2CM8	Soil	9/16/2003	12771978.34000	351444.83466	6.00	12.00	inch	20.00	8.60	1.00	0.04500
sd07-1	E2CM9	Soil	9/16/2003	12772009.93900	351435.27687	0.00	6.00	inch	64.00	6.80	1.00	2.72000
sd07-2	E2CN0	Soil	9/16/2003	12772009.93900	351435.27687	6.00	12.00	inch	69.00	6.30	1.00	7.70000
sd08-1	E2CN1	Soil	9/16/2003	12772031.65400	351421.42876	0.00	6.00	inch	51.00	6.60	1.00	0.53000
sd08-2	E2CN2	Soil	9/16/2003	12772031.65400	351421.42876	6.00	12.00	inch	14.00	8.80	1.00	0.04800
sd09-1	E2CN3	Soil	9/16/2003	12771983.98300	351601.50449	0.00	6.00	inch	19.00	8.60	1.00	0.02050
sd09-2	E2CN4	Soil	9/16/2003	12771983.98300	351601.50449	6.00	12.00	inch	10.00	8.60	1.00	0.02900
sd10-1	E2CN5	Soil	9/15/2003	12771999.93700	351133.24986	0.00	6.00	inch	74.00	9.00	1.00	0.06500
sd10-2	E2CN6	Soil	9/15/2003	12771999.93700	351133.24986	6.00	12.00	inch	39.00	6.50	1.00	0.02700
sd11-1	E2CN7	Soil	9/16/2003	12772065.76300	351146.30345	0.00	6.00	inch	42.00	6.10	1.00	0.02850
sd11-2	E2CN8	Soil	9/16/2003	12772065.76300	351146.30345	6.00	12.00	inch	9.00	6.40	1.00	0.01800
sd12-1	E2CN9	Soil	9/16/2003	12771975.74500	351350.94158	0.00	6.00	inch	79.00	7.50	1.00	0.08000

LOCATION	SAMPLE	MATRIX	SAMPLE DATE	X	Y	START DEPT	END DEPTH	DEPTH UNIT	MOISTURE	PH	DILUTION	TOTAL PCB ¹
sd12-2	E2CP0	Soil	9/16/2003	12771975.74500	351350.94158	6.00	12.00	inch	30.00	7.10	1.00	0.07100
sd13-1	E2CP1	Soil	9/16/2003	12772019.69600	351349.62624	0.00	6.00	inch	17.00	6.60	1.00	0.13000
sd13-2	E2CP2	Soil	9/16/2003	12772019.69600	351349.62624	6.00	12.00	inch	20.00	7.30	1.00	0.04800
sd14-1	E2CP3	Soil	9/15/2003	12772069.24000	351352.34536	0.00	6.00	inch	60.00	6.40	1.00	0.13300
sd14-2	E2CP4	Soil	9/15/2003	12772069.24000	351352.34536	6.00	12.00	inch	17.00	6.90	1.00	0.01950
sd15-1	E2CP5	Soil	9/16/2003	12771966.37300	351549.78785	0.00	6.00	inch	16.00	8.20	1.00	0.03900
sd15-2	E2CP6	Soil	9/16/2003	12771966.37300	351549.78785	6.00	12.00	inch	4.00	8.10	1.00	0.01900
sd16-1	E2CP7	Soil	9/16/2003	12772023.05900	351542.12943	0.00	6.00	inch	41.00	7.50	1.00	1.20000
sd16-2	E2CP8	Soil	9/16/2003	12772023.05900	351542.12943	6.00	12.00	inch	4.00	8.30	1.00	0.01600

¹Parts per million

FIGURES

Figure 1

Site Location Map



MICHIGAN



Figure 2

12th Street Landfill: Maximum PCB Values for 1993 Samples

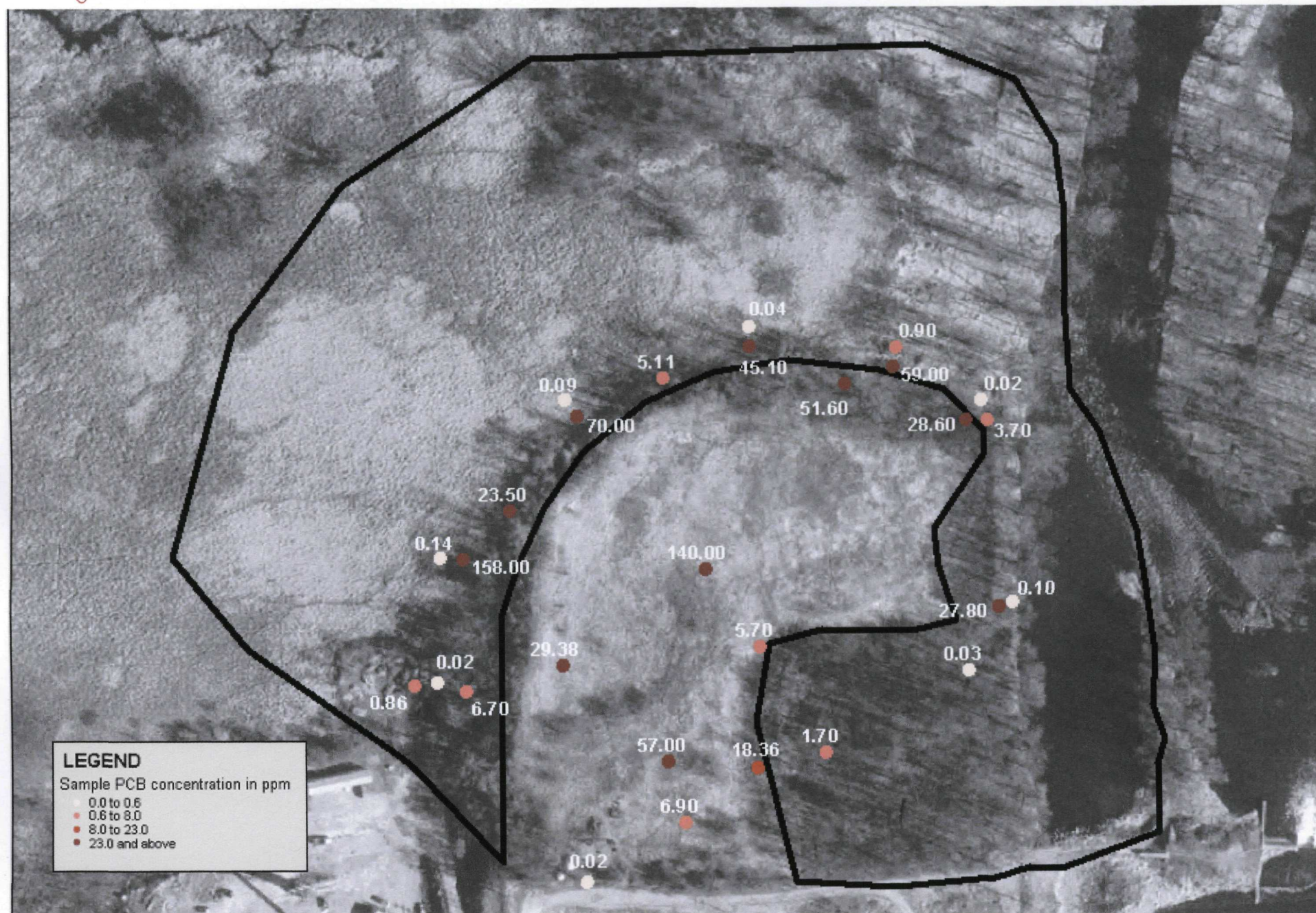
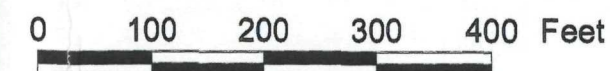
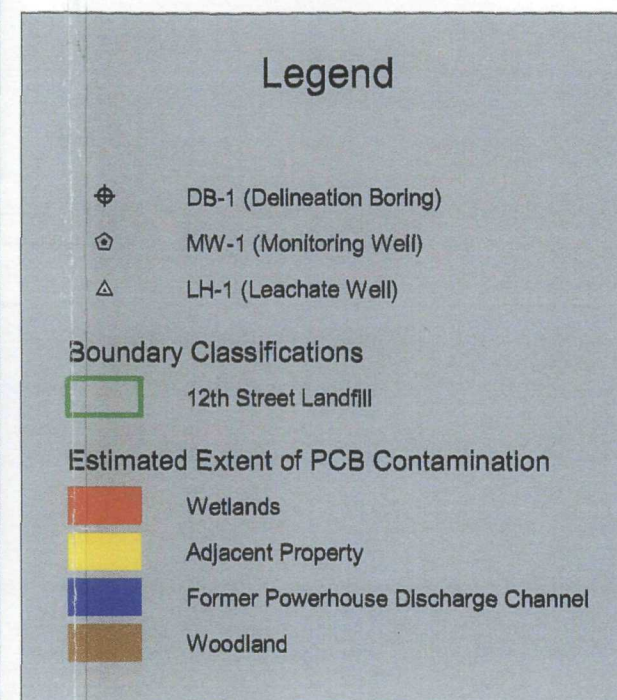


Figure 3



Notes:

- (1) Aerial photographs taken by Air Land Surveys, Inc. on 4/24/00.
- (2) Coordinates are in State Plane Michigan South NAD 1983.
- (3) Coordinates for Delineation Borings (DB-), Monitoring Wells (MW-), and Leachate Wells (LH-) were provided by Blasland, Bouck & Lee.
- (4) Extent of PCB contamination is estimated based on analytical data and onsite observations.

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CDM Camp Dresser & McKee Inc.

One Woodward Ave., Suite 1500
 Detroit, Michigan 48226
 Phone: (313) 963-1313
 Fax: (313) 963-3130

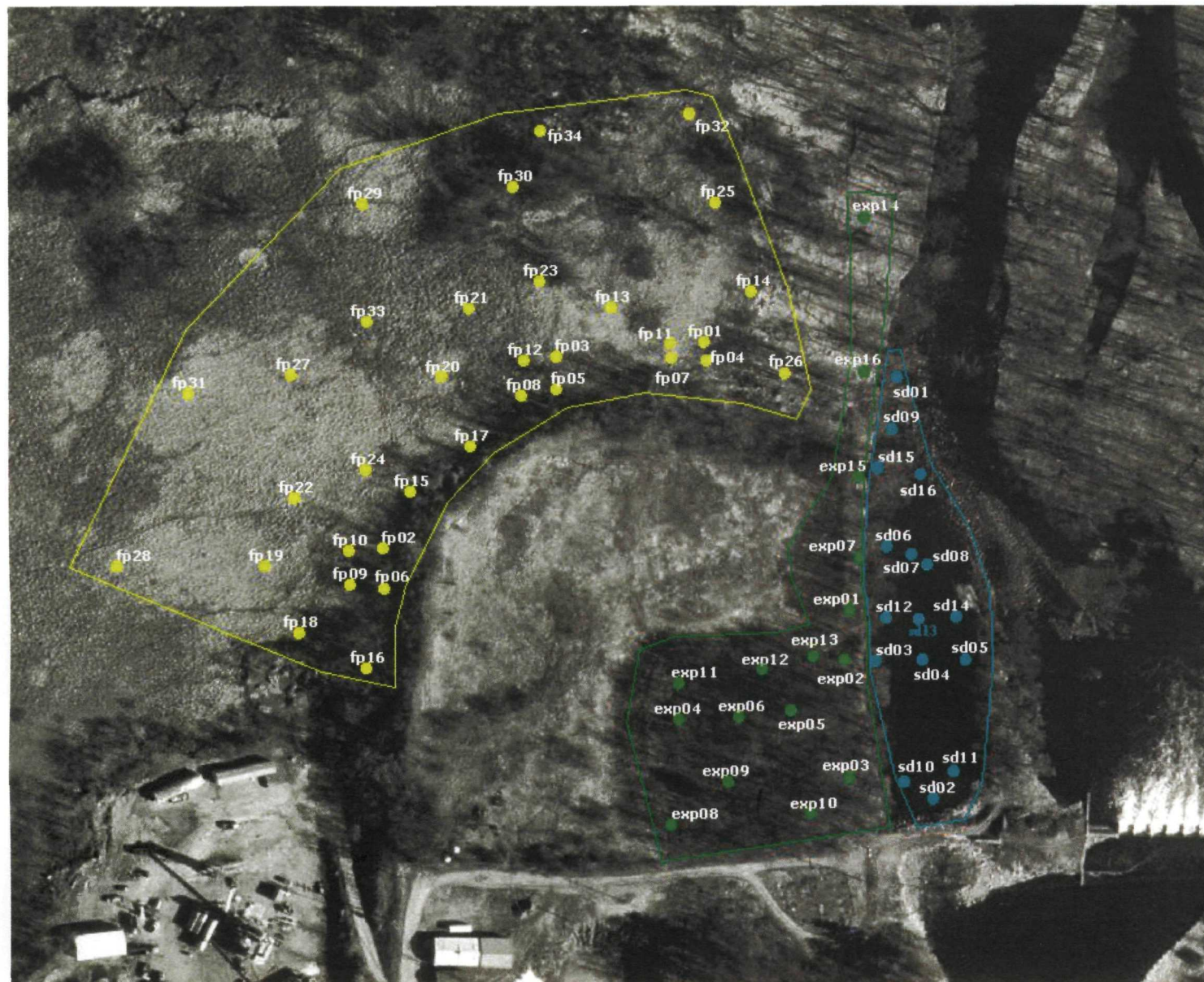
Prepared By:
 A. Santini
 Updated:
 4/18/01

**Allied Paper, Inc./Portage Creek/
 Kalamazoo River Superfund Site**

12th Street Landfill Operable Unit
 Extent of Visual PCB Contamination

Figure No.
 3

Figure 4



- Floodplain sample (34 total)
- Exposed sediment (16 total)
- Sediment sample (16 total)

October 2003



0 200 400 Feet

**Final Sampling Design for 12th Street Landfill -
Operable Unit 4 of the Allied Paper, Inc., / Portage Creek / Kalamazoo River Superfund Site
City of Plainwell, Michigan**

Figure 5

PCB Sampled Locations -- 0-6 inches
12th Street Landfill: Kalamazoo River in Plainwell, Michigan.

Legend:

- Original PCB hotspots
- PCB locations (0-6 inches):
 - 0.0 - 0.6
 - 0.6 - 8.0
 - 8.0 - 23.0
 - 23.0 and greater

* Value recorded at a depth of 6-12 inches

Scale: 200 0 200 400 600 800 1000 Feet

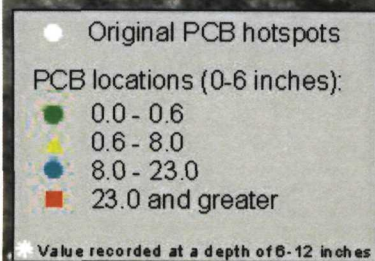


Figure 6

PCB Sampled Locations -- 6-12 inches 12th Street Landfill: Kalamazoo River in Plainwell, Michigan.

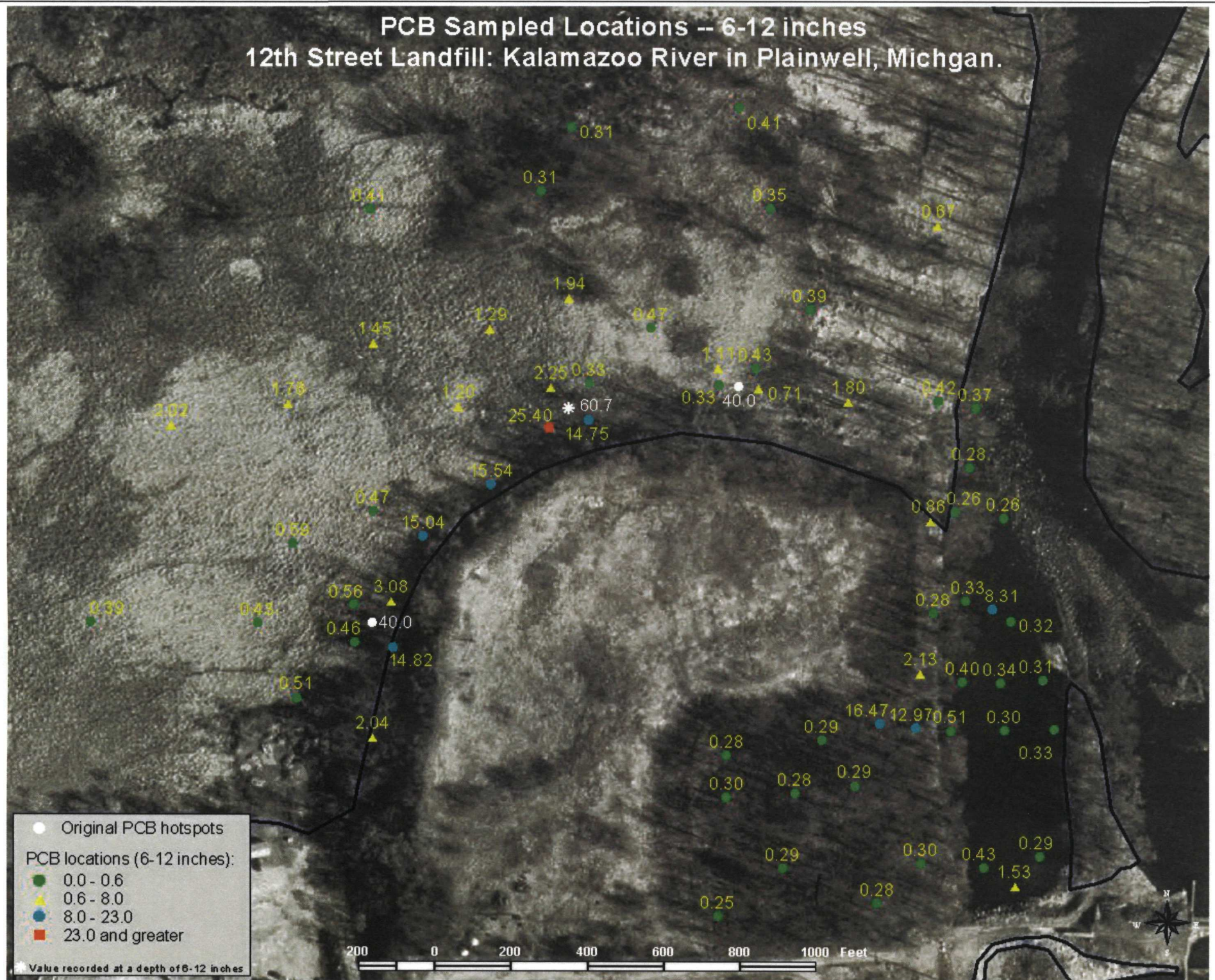


Figure 7

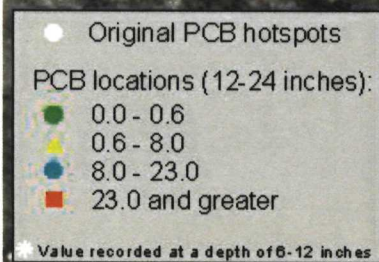
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Figure 8

12th Street Landfill: PCB Sample Concentrations 1993, 2001, and 2003 data (0 to 6 inches)

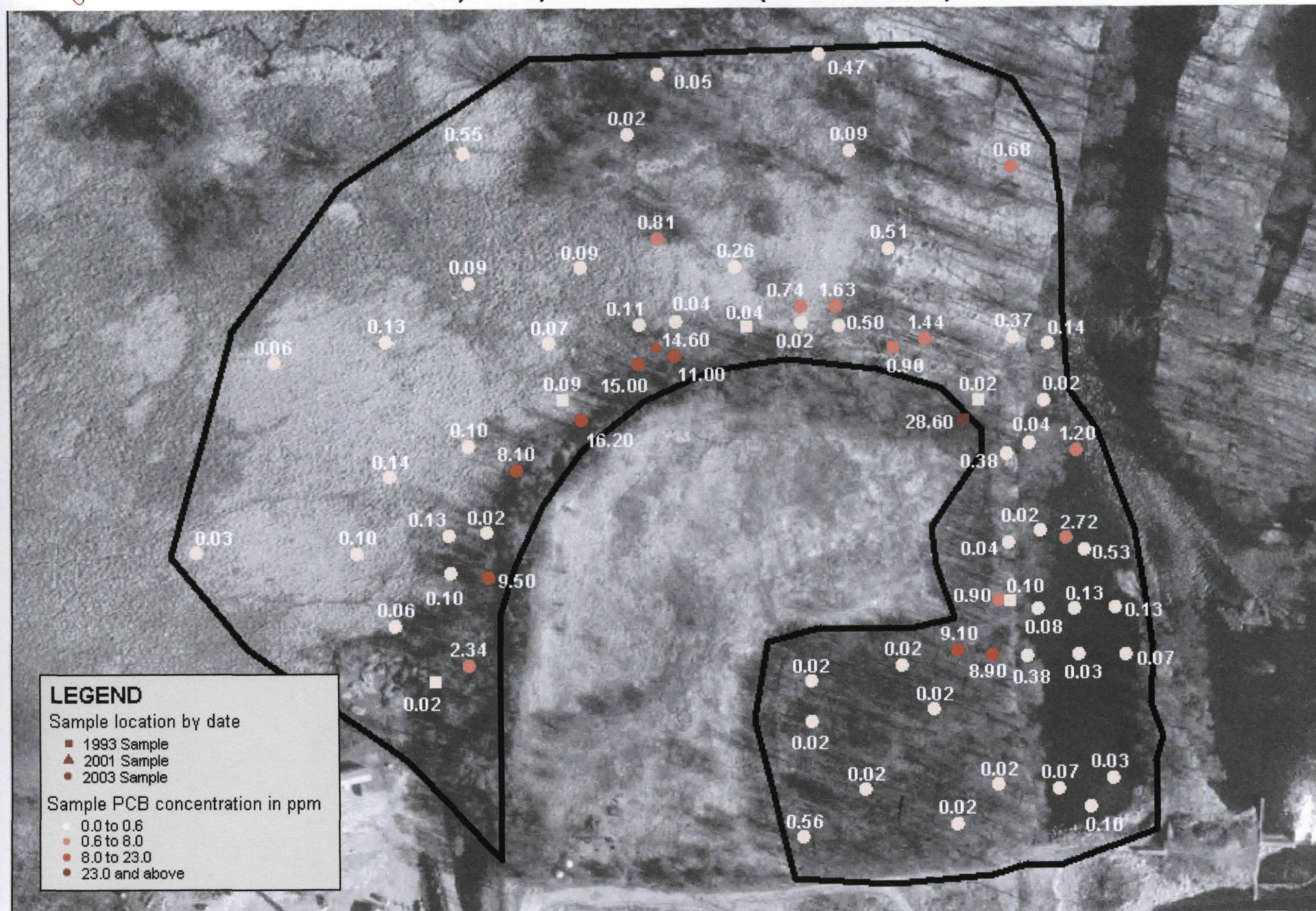


Figure 9

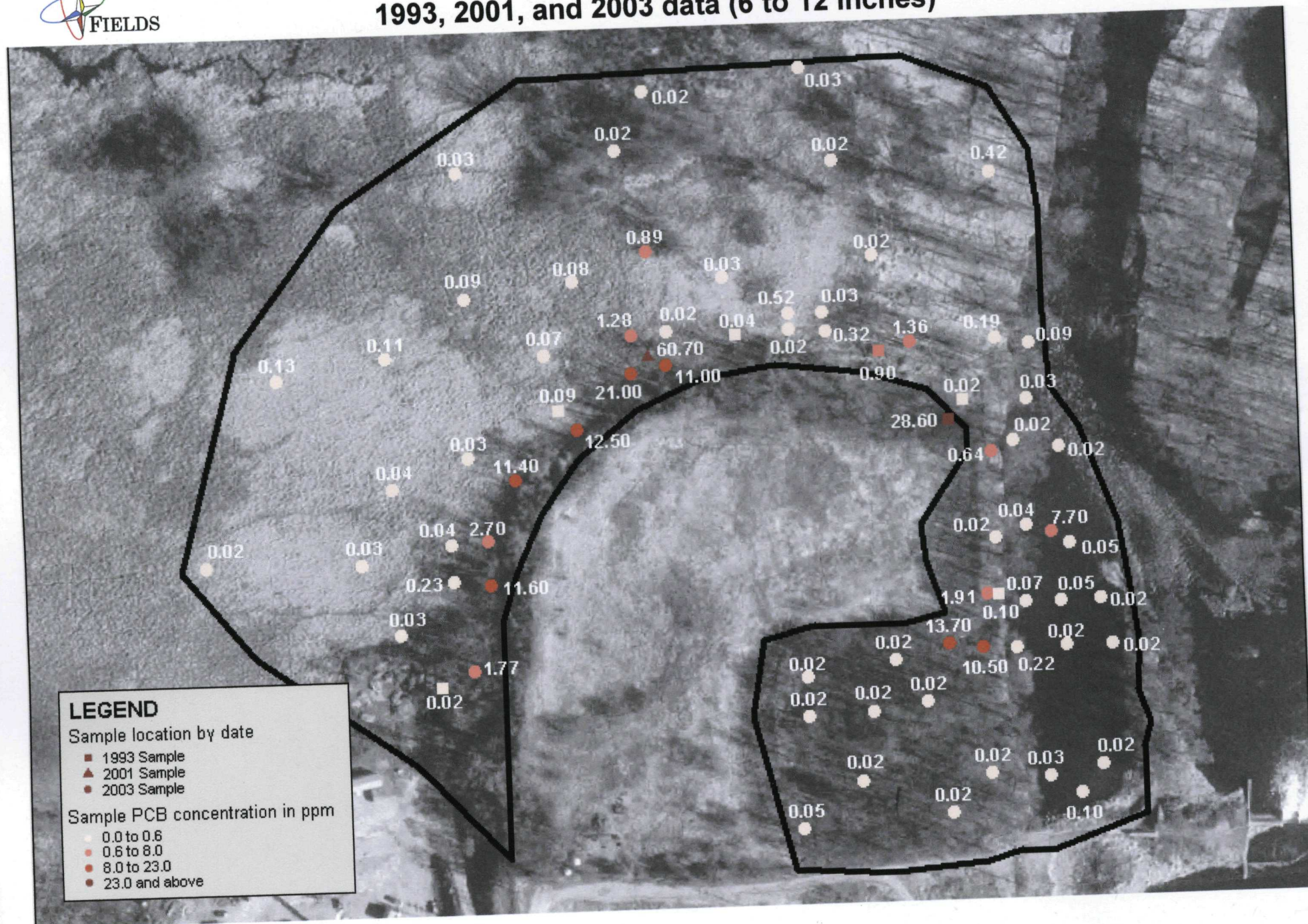
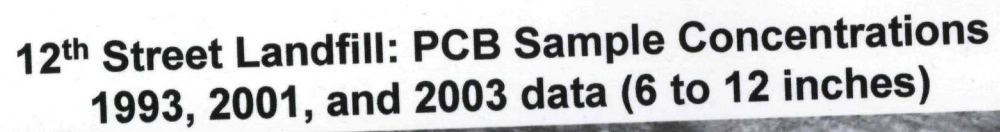
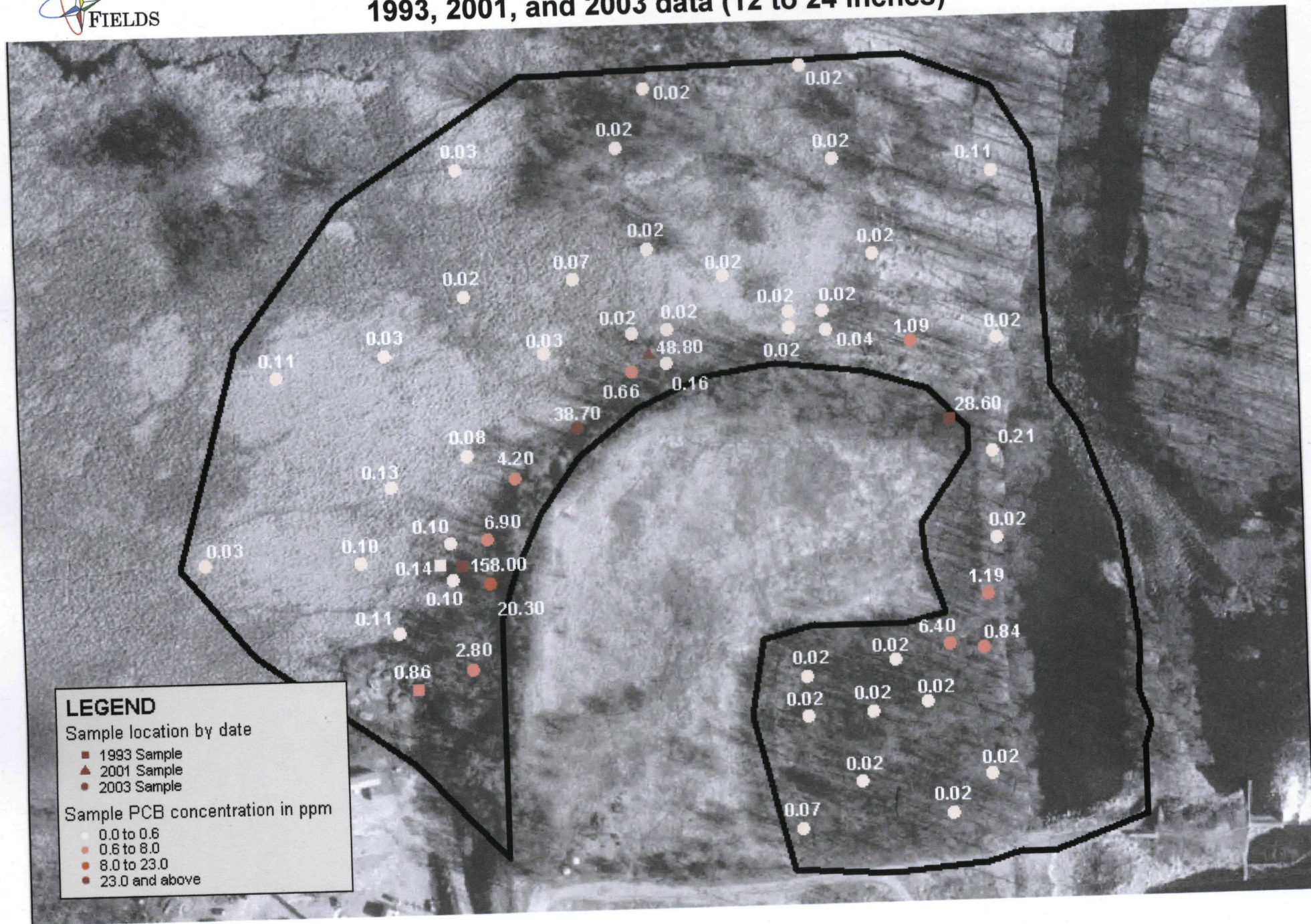


Figure 10

12th Street Landfill: PCB Sample Concentrations 1993, 2001, and 2003 data (12 to 24 inches)



Appendix 1



January 30, 2004



FIELDS Team Contamination and Remediation Estimates of Soil and Sediment Surrounding the 12th St. Landfill

Allegan County, Michigan

Introduction

The 12th St. Landfill is located in Allegan County, Michigan about 1.5 miles northwest of the city of Plainwell. The landfill is part of the Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund site and is designated as Operable Unit #4 (OU4). The primary contaminant at OU4 and the entire Superfund site is polychlorinated biphenyls (PCBs). These PCBs are contained in contaminated paper residuals in the landfill, however, PCBs from the landfill may have also migrated into surrounding areas. In addition to the landfill itself, OU4 includes wetlands to the north and northwest, woodlands to the south and southeast, part of an adjacent gravel operation property to the west, part of the former powerhouse discharge channel of the Plainwell Dam on the Kalamazoo River, groundwater contamination, and any PCB-contaminated leachate from the landfill.

Methods and Assumptions

Sampling and analyses were performed over an area of approximately 700,000 square feet surrounding the 12th St. Landfill to determine the extent of PCB contamination from the landfill. Samples were taken throughout the site to obtain PCB concentrations at specified locations. The sample concentrations were then used to estimate the magnitude of PCB contamination at the site and estimate the magnitude of remediation necessary to remove contaminated soil and sediment. A sample plan was designed by the FIELDS Team to sample for PCB concentration in soils and sediment in three regions: the floodplain north/northwest of the landfill, exposed sediment between the landfill and in-stream channel, and sediment from the in-stream channel. These three regions as well as the sample locations are shown in Figure 1. The sample plan involved two separate design strategies; a radial sample design was used in the floodplain region and an aligned grid sample design was used for the exposed and in-stream sediments. A total of 66 sample locations were selected near the landfill. Cores were taken at each location with composites of 0-6, 6-12, and 12-24 inches taken from each core. Due to sampling limitations, PCB data for the full 24 inches could not be obtained at all locations (66 samples were taken in the 0-6" layer, 66 samples were taken in the 6-12" layer, and 50 samples were taken in the 12-24" layer). As a result, the analysis only extends to the maximum depth reached at each sample point. In addition, one sample in the 0-6" layer could not be analyzed and therefore was not used in the contamination and remediation estimates.

To obtain a total PCB concentration at each sample point, concentrations of Aroclor 1016, 1221, 1232, 1242, 1248, 1254, and 1260 were summed. Samples with concentrations designated as U or UJ were not included in the summing. If none of the Aroclor concentrations for a given sample were detected above the detection limit, a value of half the limit of detection was used as the total PCB concentration, but not summed. PCB concentrations were estimated using IDW interpolation, with a cell size of one square foot, for three layers at depths of 0-6, 6-12, and 12-24 inches. A fourth interpolation was also done using the maximum PCB concentration at each sample location. Cross Validation was used to calculate lowest error parameters (power of 2 and neighbor of 5). These same parameters were used for each of the four interpolations.

PCB concentrations of 0, 0.6, 4, 8, 15, and 23 ppm were designated as possible action levels. Action levels were based on the Plainwell ecological risk action level, which ranges from 0.6 to 8.0 ppm, and the human health risk action level, which ranges from 8.0 to 23.0 ppm. It was assumed that all cells at or above the action level would be remediated. The interpolation using the maximum PCB concentration at each sample location was used to estimate the area requiring remediation and subsequent post-remediation PCB concentrations. Estimations of the volume of PCB contaminated soil and the mass of PCB in the soil were calculated based on the interpolated models of contamination for each of the three layers (0-6, 6-12, and 12-24 inches). In order to perform mass and volume calculations, a bottom grid was created using the maximum depth reached at each sample point. These values ranged from 10 to 24 inches. The bottom grid is not necessarily a limit for potential PCB contamination, but is the limit of the data for characterization.

Results

Initially, basic statistical information was calculated for the 12th St. Landfill site using the total PCB concentration from each sample point. The average PCB concentration of all sample points was estimated to be 1.6 ppm, with concentrations ranging from 0.016 ppm to 38.7 ppm. Statistics for each of the three soil/sediment layers were also calculated. The sample layer spanning 6 to 12 inches had the highest average PCB concentration with a value of 1.72 ppm. However, the sample layer from 12 to 24 inches contained the maximum PCB concentration at the site with a value of 38.7 ppm. Additional statistical information on the sample points can be found in Table 1.

Although a basic statistical analysis of sample points provides some general information on PCB contamination around the 12th St. Landfill, IDW interpolation was used to estimate PCB contamination over the entire site. The results of the interpolations for each of the three layers are shown in Figures 2, 3, and 4. Figure 2 shows the interpolation for the 0 to 6 inch layer. This interpolation has an average PCB concentration of 1.02 ppm and a standard deviation of 2.09. Figure 3 shows the interpolation for the 6 to 12 inch layer. This interpolation has an average PCB concentration of 1.08 ppm and a standard deviation of 2.41. Figure 4 shows the interpolation for the 12 to 24 inch layer. This interpolation has an average PCB concentration of 1.06 ppm and a standard deviation of 3.22. Figure 5 shows the interpolation using the maximum PCB concentration at each sample location. This interpolation has an average PCB concentration of 1.64 ppm and a standard deviation of 3.93. It is important to note, however, that the interpolation shown in Figure 5 is a conservative estimate of PCB contamination and was done to roughly estimate the area of contamination that would require remediation. A more accurate analysis would need to be performed before remediation would occur. Additional statistical information for each of the four interpolations is shown in Table 2 and estimation errors for the interpolations are shown in Table 3. The average estimation error for the four interpolations ranges from 0.0009 to 0.0016.

After creating an interpolation of the maximum PCB concentration at each sample point, more accurate remediation actions could be estimated. A selection of several remediation actions is shown in Figure 6. Each remediation action shows the locations where soil and sediment would have to be removed at a given action level. For example, the upper right image in Figure 6 shows the remediation action at an action level of 0.6 ppm. All of the regions shaded dark red have PCB concentrations greater than or equal to 0.6 ppm and would be removed. The regions shown in pink have PCB concentrations less than 0.6 ppm and would not be affected by the remediation.

The remediation actions shown in Figure 6 provide an estimate of the area requiring remediation around the 12th St. Landfill, however, volume and mass estimates are also useful in deciding remediation actions. An estimation of the volume of soil by PCB concentration revealed that the

majority of soil and sediment surrounding the landfill has a PCB concentration of 0 to 0.6 ppm. Out of a total of approximately 46,600 cubic yards of soil and sediment in the sample area, an estimated 34,149 cubic yards have a PCB concentration ranging from 0 to 0.6 ppm, as is shown in Table 4. Additionally, approximately 12,431 cubic yards of soil and sediment have PCB concentrations greater than 0.6 ppm, while an estimated 1,467 cubic yards of soil and sediment have PCB concentrations greater than 8 ppm. The volume of soil and sediment with PCB concentrations greater than 23 ppm is 153 cubic yards.

In addition to calculations of volume of soil and sediment by PCB concentration, the mass of PCB in soil and sediment surrounding the 12th St. Landfill was also estimated. The results are shown in Table 5 and indicate that out of a total 125.7 estimated pounds of PCB, the 0 to 6 inch layer contains 33.1 lbs, the 6 to 12 inch layer contains 35.3 lbs., and the 12 to 24 inch layer contains 57.4 lbs. Table 6 shows the relationship between mass and volume at different action levels. For example, soil and sediment with PCB concentrations greater than 4 ppm contain 61% of the total mass of PCB but only 7.1% of the total site volume.

Estimations of mass, volume, and area of PCB contamination provide important information for the remediation of the area surrounding the 12th St. Landfill. All of these variables are shown Figure 7 so that contamination estimates and remediation estimates can easily be compared. As the chart shows, both the “% Area Remediated” and “% Contaminated Volume” curves follow similar patterns. Initially, both curves have very steep slopes, where low action levels correspond with high percents. However, these slopes quickly decrease as the action level concentration increases and percent decreases. For instance, at action levels near 0 ppm, nearly 100% of the volume is contaminated and nearly 100% of the area must be remediated, but at an action level of 0.6 ppm the contaminated volume drops to 26.7% and 36.2% of the area requires remediation. Like “% Area Remediated” and “% Contaminated Volume,” the “% of Total Mass of PCB” decreases as action level increases, however, the slope decreases less drastically. At action levels near 0 ppm, nearly 100% of the total mass of PCB is removed and at an action level of 0.6 ppm, 91.3% of the total mass of PCB is removed. Pre-remediation and post-remediation concentrations are also included in Figure 7. As one would expect, as the action level increases, the post-remediation concentration also increases. These lines are included in the chart to show the effectiveness of different remediation choices. By choosing a post-remediation concentration, one can estimate the percent volume and percent mass of PCB that would be involved in the removal and how that would differ from slightly different post-remediation concentrations.

Background

The FIELDS Team is a technical support unit within the U.S. EPA Region 5 Superfund Division. The Team supports and performs spatial data analysis including GIS; field work such as GPS and bathymetric surveys; and develops software tools to facilitate both field work and data analysis. The software tools are available for download at www.tiem.utk.edu/~fields/. There are two, separate softwares: **FIELDS Tools for ArcView** and **F/S Plus**. The former requires ArcView 3.x and Spatial Analyst 1.x or 2.x. The latter, F/S Plus, is a stand-alone software that extends many of the FIELDS Tools into three dimensions.

Contact

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APPENDIX

Figure 1: Sample Locations and Defined Sampling Regions

Figure 2: 12th St. Landfill Estimated PCB Concentrations – IDW Interpolation 0 to 6 inches

Figure 3: 12th St. Landfill Estimated PCB Concentrations – IDW Interpolation 6 to 12 inches

Figure 4: 12th St. Landfill Estimated PCB Concentrations – IDW Interpolation 12 to 24 inches

Figure 5: 12th St. Landfill Estimated PCB Concentrations – IDW Interpolation using Maximum Values

Figure 6: 12th St. Landfill Estimated PCB Remediation

Figure 7: Contamination and Remediation Estimates

Table 1: Summary Statistics for Sample Points

Table 2: Summary Statistics for IDW Interpolations

Table 3: Estimation Error for IDW Interpolations

Table 4: Estimated Volume of Soil/Sediment by PCB Concentration

Table 5: Estimated Mass of PCB in Soil/Sediment by PCB Concentration

Table 6: Contamination and Remediation Estimates by Action Level

Figure 1: Sample Locations and Defined Sampling Regions

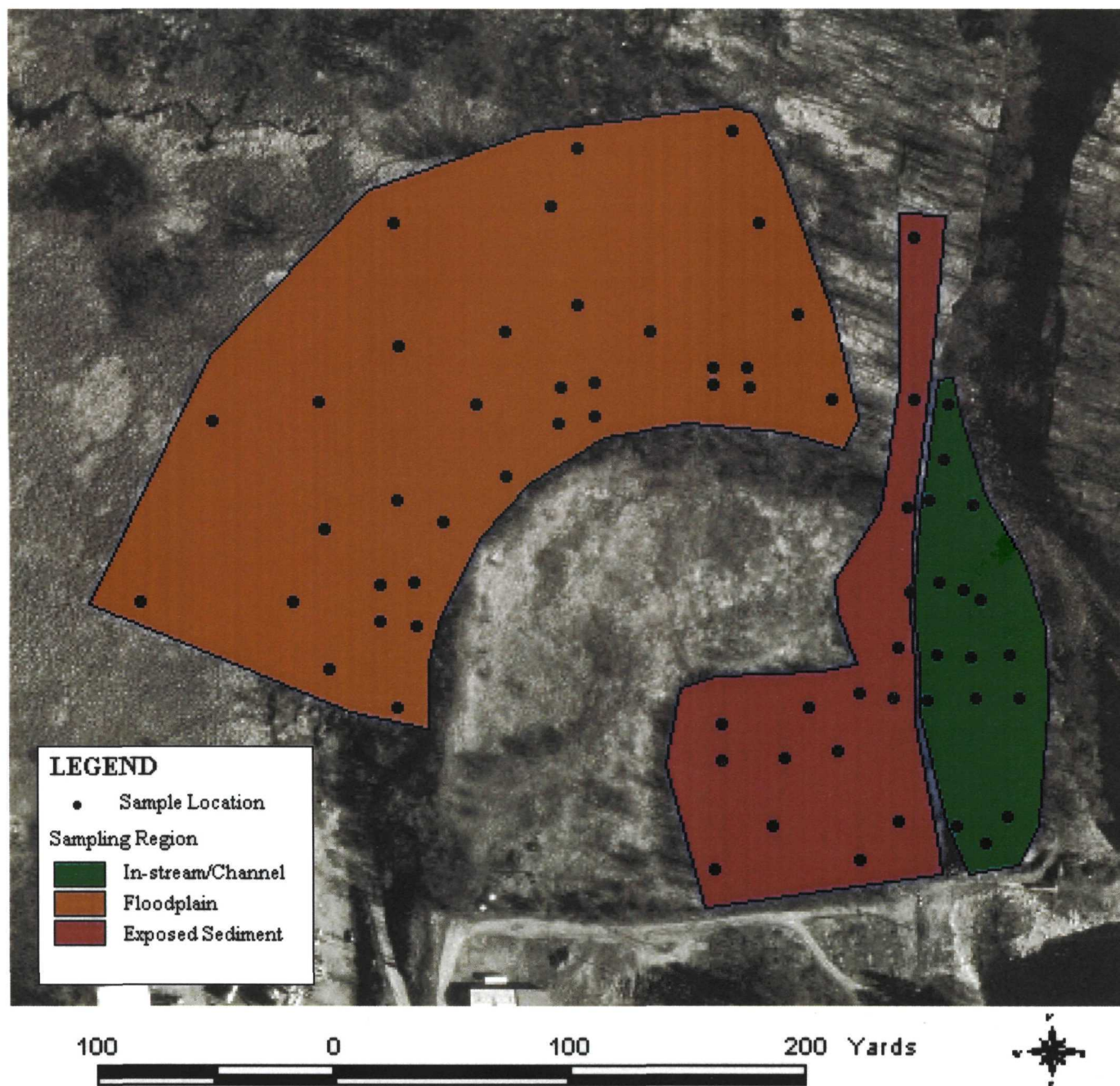
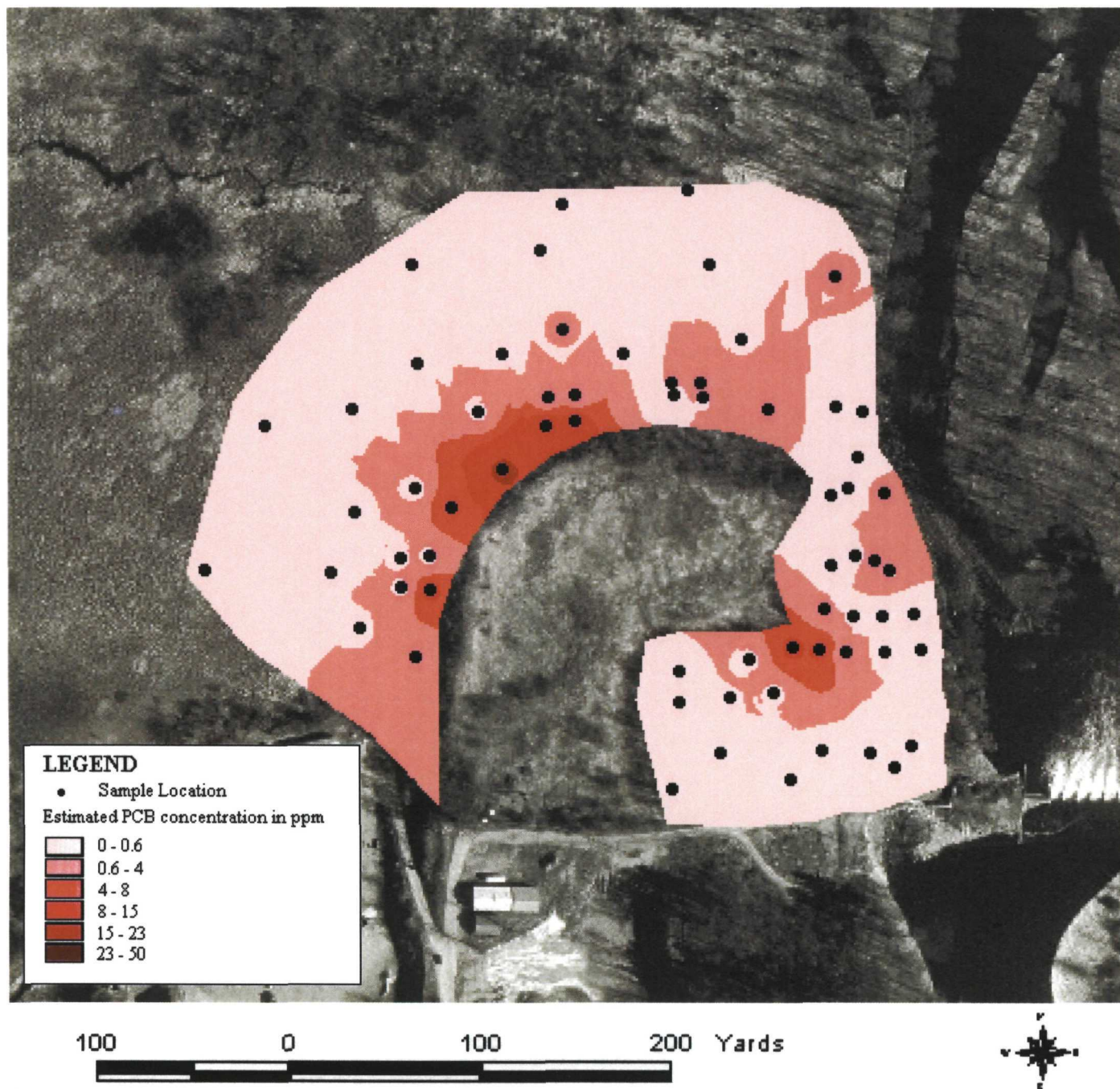




Figure 2: 12th St. Landfill Estimated PCB Concentrations
IDW Interpolation 0 to 6 inches





**Figure 3: 12th St. Landfill Estimated PCB Concentrations
IDW Interpolation 6 to 12 inches**





Figure 4: 12th St. Landfill: Estimated PCB Concentrations
IDW Interpolation 12 to 24 inches



**Figure 5: 12th St. Landfill: Estimated PCB Concentrations
IDW Interpolation using Maximum Values**



Figure 6: 12th St. Landfill Estimated PCB Remediation

LEGEND

Remediation Action

- Unaffected
- Remove

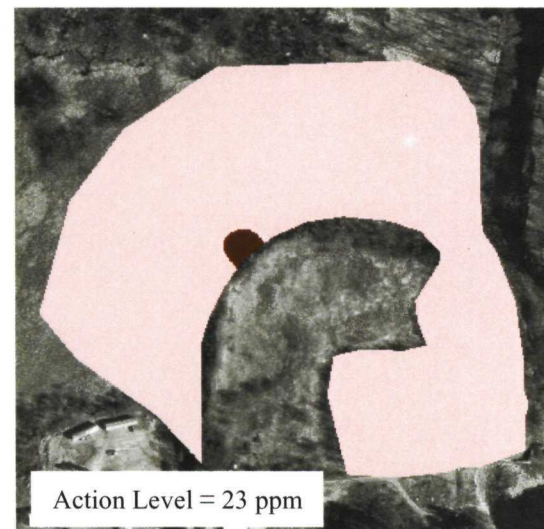
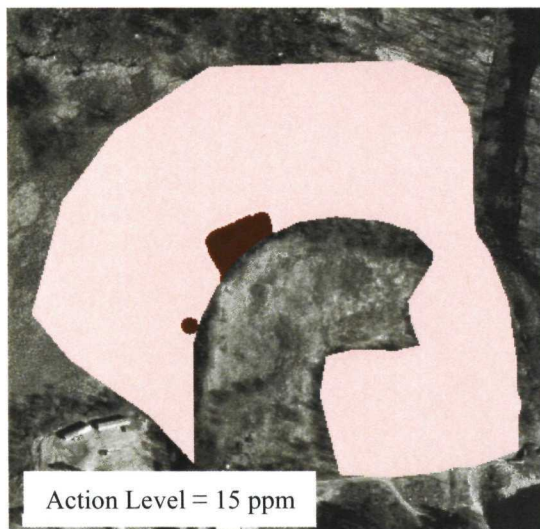
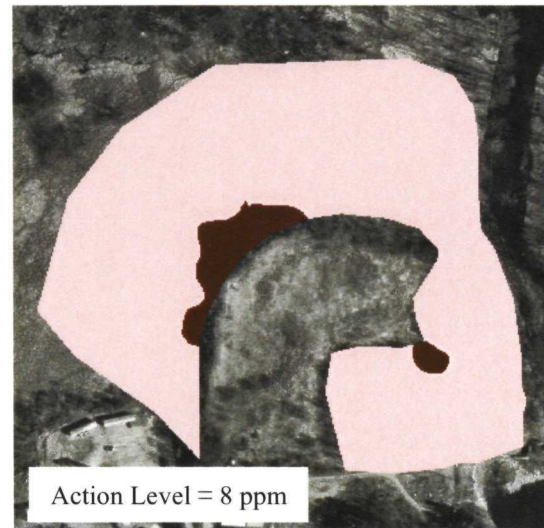
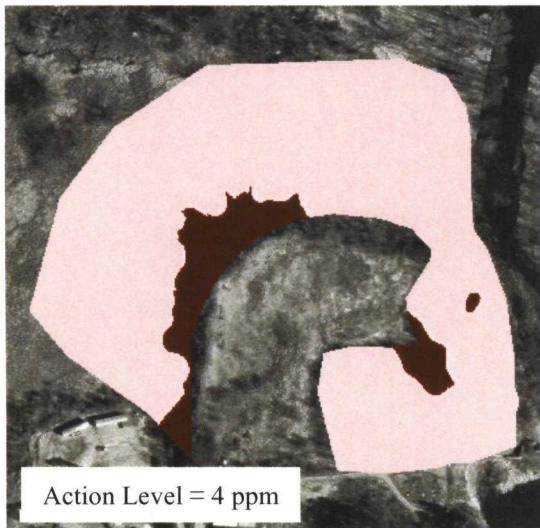
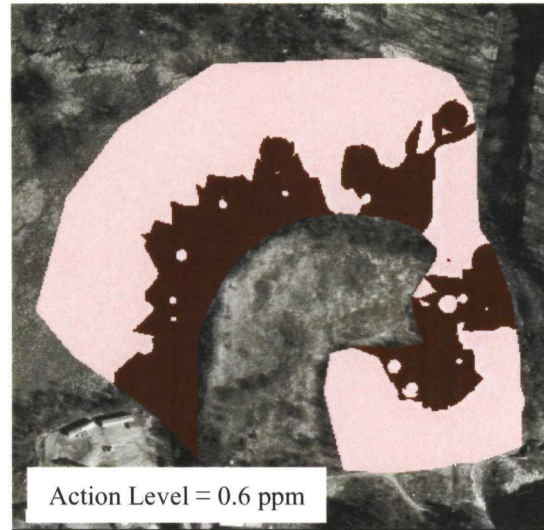




Figure 7: Contamination and Remediation Estimates

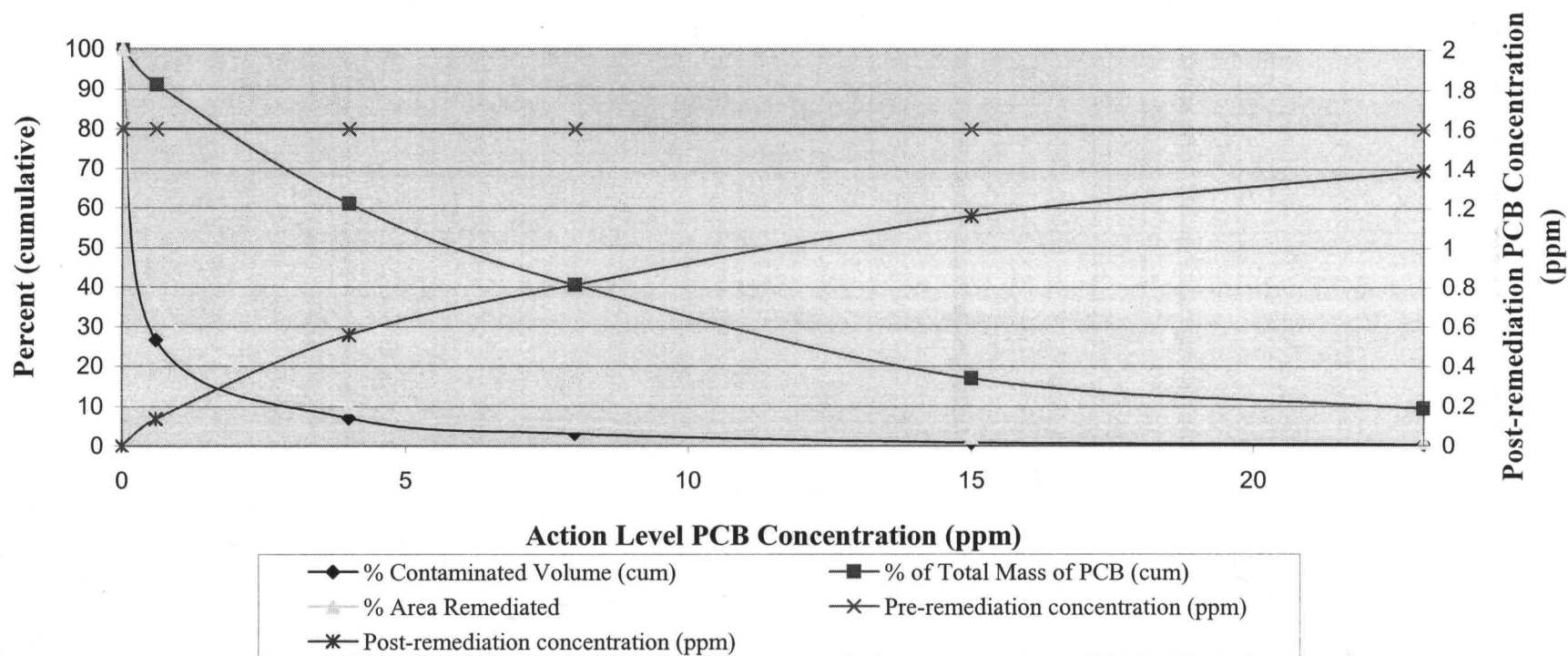


Table 1: Summary Statistics for Sample Points

Depth (in.)	Number of Points	Average PCB Concentration (ppm)	Maximum PCB Concentration (ppm)	Minimum PCB Concentration (ppm)	Range	Variance	Standard Deviation
0 to 6 inches	65	1.50	16.20	0.02	16.18	12.57	3.55
6 to 12 inches	66	1.72	21.00	0.02	20.98	17.91	4.23
12 to 24 inches	50	1.70	38.70	0.02	38.68	38.43	6.20
Total	181	1.63	38.70	0.02	38.68	21.41	4.63

Table 2: Summary Statistics for IDW Interpolations

Interpolation	Average PCB Concentration (ppm)	Maximum PCB Concentration (ppm)	Minimum PCB Concentration (ppm)	Median PCB Concentration (ppm)	Standard Deviation
0 to 6 inches	1.02	16.20	0.02	0.33	2.09
6 to 12 inches	1.08	21.00	0.02	0.12	2.41
12 to 24 inches	1.06	38.70	0.02	0.09	3.22
Maximum values	1.64	38.70	0.02	0.37	3.94

Table 3: Estimation Error for IDW Interpolations

Interpolation	Average Estimation Error	Average Percent Estimation Error
0 to 6 inches	0.0011	0.0068
6 to 12 inches	0.0013	0.0064
12 to 24 inches	0.0009	0.0022
Maximum values	0.0016	0.0042

Table 4: Estimated Volume of Soil/Sediment by PCB concentration

Concentration (ppm)	Volume in cubic yards (0-6 in)	Volume in cubic yards (6-12 in)	Volume in cubic yards (12-24 in)	Total Volume in cubic yards	% of Total Volume
0 to 0.6	8709.4	9295.7	16144.2	34149.3	73.3
0.6 to 4	3544.6	2723.5	2851.1	9119.2	19.6
4 to 8	452.8	469.2	923.1	1845.1	4.0
8 to 15	306.7	475.2	317.1	1099.1	2.4
15 to 23	24.6	36.5	153.8	214.8	0.5
23 to 50	0.0	0.0	153.2	153.2	0.3
Total	13038.2	13000.1	20542.6	46580.9	100.0

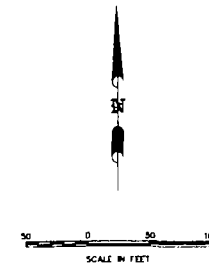
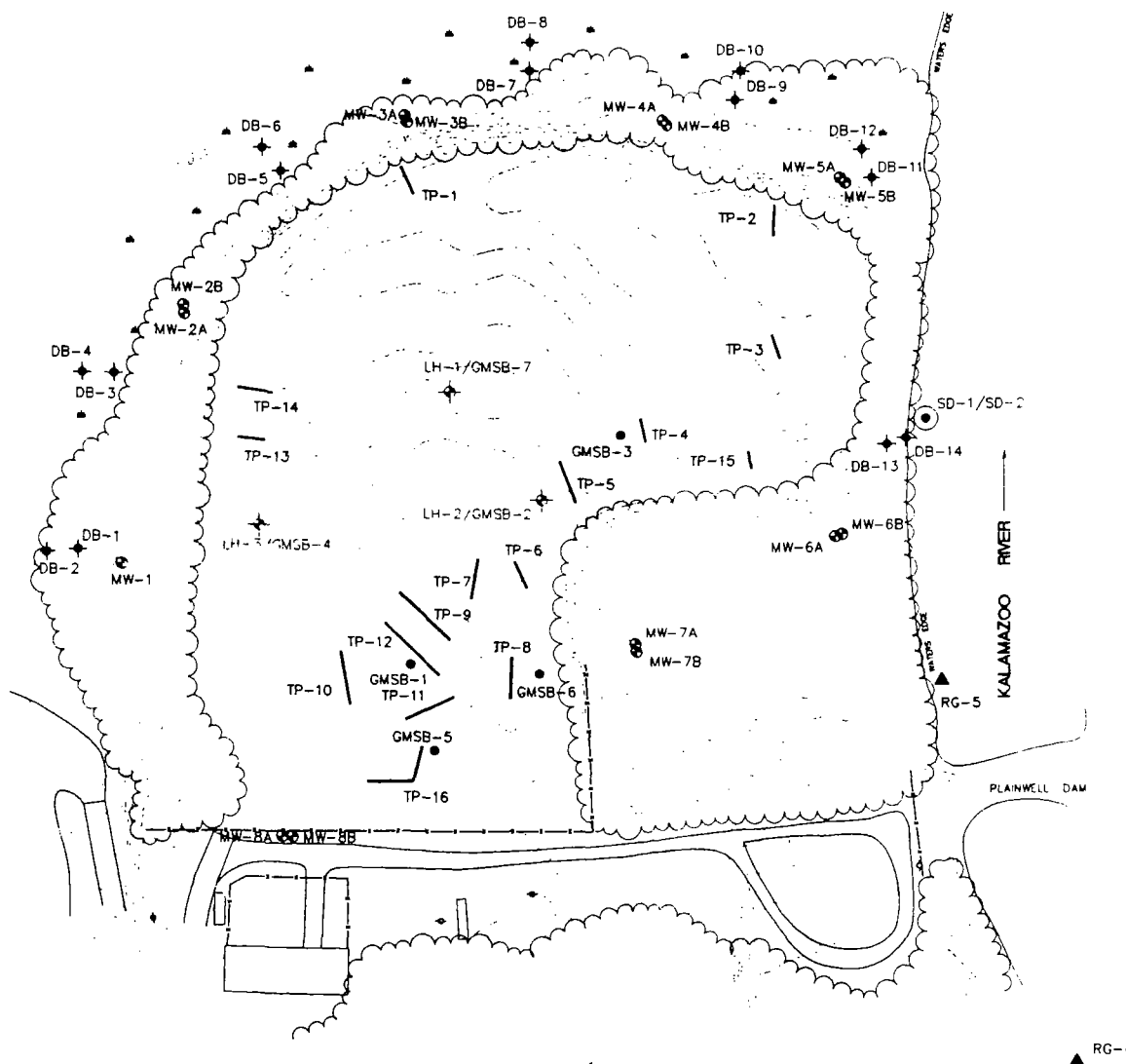
Table 5: Estimated Mass of PCB in Soil/Sediment by PCB concentration

Concentration (ppm)	Mass of PCB in lbs. (0-6 in)	Mass of PCB in lbs. (6-12 in)	Mass of PCB in lbs. (12-24 in)	Total Mass of PCB in lbs.	% of Total Mass of PCB
0 to 0.6	4.6	2.9	3.5	11.0	8.7
0.6 to 4	12.4	11.5	14.1	38.0	30.2
4 to 8	6.8	6.7	12.3	25.8	20.6
8 to 15	8.4	12.6	8.6	29.6	23.5
15 to 23	1.0	1.6	7.0	9.5	7.6
23 to 50	0.0	0.0	11.8	11.8	9.4
Total	33.1	35.3	57.4	125.7	100.0

Table 6: Contamination and Remediation Estimates by Action Level

Action Level (ppm)	Total Contaminated Volume (cu yds)	% Contaminated Volume (cum)	Total Mass of PCB in lbs.	% of Total Mass of PCB (cum)	% Area Remediated	Pre-remediation concentration (ppm)	Post-remediation concentration (ppm)
0	46580.9	100.0	125.7	100.0	100.0	1.6	0.0
0.6	12431.5	26.7	114.7	91.3	36.2	1.6	0.1
4	3312.3	7.1	76.7	61.0	9.9	1.6	0.6
8	1467.2	3.2	50.9	40.5	5.3	1.6	0.8
15	368.1	0.8	21.3	17.0	2.1	1.6	1.2
23	153.2	0.3	11.8	9.4	0.8	1.6	1.4

Appendix 2



TOPOGRAPHIC MAPING PRODUCED USING PHOTOGRAMMETRIC METHODS BY LOCKWOOD, INC. FROM AERIAL PHOTOGRAPHY TAKEN APRIL 12, 1991

SOURCES: RIVER GAUGE LOCATIONS - AS SURVEYED BY BLAS AND A BROWN
SAMPLE LOCATIONS - AS SURVEYED BY WADE - TRIM

NOTE: RIVER SEDIMENT SAMPLE LOCATIONS NOT SURVEYED

LEGEND

- MONITORING WELL/NUMBER
- SOIL BORING/NUMBER
- ▲ LEACHATE HEAD WELL/NUMBER - ORIGINAL SOIL BORING NUMBER
- ◆ DELINEATION BORING/NUMBER
- ▲ RIVER GAUGE/NUMBER
- RIVER SEDIMENT SAMPLE LOCATION
- TEST PIT - TRENCH/NUMBER
- ▲ WETLAND AREA
- FENCE
- EXISTING CONTOUR
- TREE/BRUSH



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SCALE VERIFICATION
THIS DRAWING REPRESENTS THE DATA AS SHOWN ON THE ORIGINAL DRAWING.
USE TO VERIFY SCALE.
REPRODUCTION SCALE

REV. NO.	DATE	DESCRIPTION	BY	APPR.

DESIGNED BY: J. GIBSON	DATE: JAN 5, 1992
DRAWN BY: J. GIBSON	DATE: JAN 5, 1992
CHECKED BY: J. GIBSON	DATE: JAN 5, 1992
APPROVED BY: J. GIBSON	DATE: JAN 5, 1992

SAMPLE LOCATION MAP
REMEDIAL INVESTIGATION REPORT
12TH STREET LANDFILL OPERABLE UNIT
ALLIED PAPER, INC./PORTAGE CREEK/
KALAMAZOO RIVER SUPERFUND SITE

Table 3-8. Detected Compounds in Soil/Residuals - PCBs, July/August 1993,
12th Street Landfill Operable Unit, Plainwell, Michigan.

Sample Location:	DB-1*	DB-2*	DB-3	DB-3*	DB-4*	DB-5	DB-5*	DB-6*
Sample Depth:	1-2 ft	0-1 ft	1-2 ft	4-5 ft	1-2 ft	--	--	0-1 ft
Sample ID:	T90000	T90002	T90003	T90004	T90005	T90007	T90008	T90006
Sample Date:	07/20/93	07/20/93	07/21/93	07/21/93	07/21/93	07/21/93	07/21/93	07/21/93
Matrix:	Soil	Soil	Residuals	Soil	Soil	Residuals	Soil	Soil
Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Parameters								
Aroclor-1016	<0.0077 J	<0.04	90 J	<0.041 J	<0.27 J	<5.9 J	<0.10 J	<0.0058
Aroclor-1221	<0.16 J	<0.082	<13 J	<0.83 J	<0.56 J	<5.9 J	<0.20 J	<0.12
Aroclor-1232	<0.0077 J	<0.04	<13 J	<0.041 J	<0.27 J	<5.9 J	<0.10 J	<0.0058
Aroclor-1242	<0.0077 J	<0.04	<13 J	<0.041 J	<0.27 J	32 J	<0.10 J	<0.0058
Aroclor-1248	0.73 J	<0.04	68 J	4.7 J	<0.27 J	38 J	0.36 J	0.086
Aroclor-1254	<0.0077 J	<0.04	<13 J	<0.041 J	<0.27 J	<5.9 J	<0.10 J	<0.0058
Aroclor-1260	0.13 J	<0.04	<13 J	<0.041 J	<0.27 J	<5.9 J	<0.10 J	<0.0058
Total PCBs	0.86	0	158	4.7	0	70	0.36	0.086

mg/kg Milligrams per kilogram.

PCBs Polychlorinated biphenyls.

ft Feet.

-- Not available.

D Compound concentration determined at a secondary dilution factor.

E Compound concentration exceeded the calibration range of the instrument.

J Estimated value.

C Result confirmed by gas chromatography/mass spectrometry.

R Unusable value.

Dup. Duplicate.

* Sample analyzed by U.S. Environmental Protection Agency (USEPA) SW-846 method 8081.

Table 3-8. Detected Compounds in Soil/Residuals - PCBs, July/August 1993,
12th Street Landfill Operable Unit, Plainwell, Michigan.

	DB-7				DB-8			
Sample Location:	(Dup)	DB-7	DB-7*	DB-8*	(Dup)*	DB-9	DB-9*	DB-10*
Sample Depth:	--	--	--	0-1 ft	0-1 ft	--	--	0-1 ft
Sample ID:	T90009	T90011	T90013	T90010	T90012	T90015	T90016	T90014
Sample Date:	07/21/93	07/21/93	07/21/93	07/21/93	07/21/93	07/21/93	07/21/93	07/21/93
Matrix:	Residuals	Residuals	Soil	Soil	Soil	Residuals	Soil	Soil
Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Parameters								
Aroclor-1016	<5.0 J	<4.7	<0.048	<0.055	<0.046	<5.1 J	<0.044	<0.073 J
Aroclor-1221	<5.0 J	<4.7	<0.097	<0.11	<0.093	<5.1 J	<0.089	<0.15 J
Aroclor-1232	<5.0 J	<4.7	<0.048	<0.055	<0.046	<5.1 J	<0.044	<0.073 J
Aroclor-1242	<5.0 J	<4.7	<0.048	<0.055	<0.046	<5.1 J	<0.044	<0.073 J
Aroclor-1248	37 J	43	0.25	0.036 J	0.023 J	49 J	0.31	0.63 J
Aroclor-1254	<5.0 J	<4.7	<0.048	<0.055	<0.046	10 J	0.022 J	0.12 J
Aroclor-1260	2.0 J	2.1 J	<0.048	<0.055	<0.046	<5.1 J	0.034 J	0.15 J
Total PCBs	39	45.1	0.25	0.036	0.023	59	0.366	0.9

mg/kg Milligrams per kilogram.

PCB Polychlorinated biphenyls.

ft Feet.

-- Not available.

D Compound concentration determined at a secondary dilution factor.

E Compound concentration*exceeded the calibration range of the instrument.

J Estimated value.

C Result confirmed by gas chromatography/mass spectrometry.

R Unusable value.

Dup. Duplicate.

* Sample analyzed by U.S. Environmental Protection Agency (USEPA) SW-846 method 8081.

Table 3-8. Detected Compounds in Soil/Residuals - PCBs, July/August 1993,
12th Street Landfill Operable Unit, Plainwell, Michigan.

	DB-11	DB-11*	DB-12*	DB-12 (Dup)*	DB-13	DB-13*	DB-14*	SB-1
Sample Location:	DB-11	DB-11*	DB-12*	(Dup)*	DB-13	DB-13*	DB-14*	SB-1
Sample Depth:	--	--	0-1 ft	0-1 ft	--	--	0-1 ft	22-24 ft
Sample ID:	T90020	T90021	T90018	T90019	T90023	T90024	T90025	T90100
Sample Date:	07/22/93	07/22/93	07/22/93	07/22/93	07/22/93	07/22/93	07/22/93	08/13/93
Matrix:	Residuals	Soil	Soil	Soil	Residuals	Soil	Soil	Residuals
Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Parameters								
Aroclor-1016	<0.50	<0.042	<0.041	<0.041	<3.1	<0.17	<0.049	<0.11 J
Aroclor-1221	<0.50	<0.085	<0.084	<0.083	<3.1	<0.36	<0.099	<0.11 J
Aroclor-1232	<0.50	<0.042	<0.041	<0.041	<3.1	<0.17	<0.049	<0.11 J
Aroclor-1242	<0.50	<0.042	<0.041	<0.041	<3.1	<0.17	<0.049	<0.11 J
Aroclor-1248	2.0	<0.042	<0.041	<0.041	24	1.5	0.040 J	<0.11 J
Aroclor-1254	1.7	<0.042	<0.041	<0.041	3.8 J	0.20 J	0.062	1.1 J
Aroclor-1260	<0.50	<0.042	<0.041	<0.041	<3.1	0.13 J	<0.049	<0.11 J
Total PCBs	3.7	0	0	0	27.8	1.83	0.102	1.1

mg/kg Milligrams per kilogram.

PCB Polychlorinated biphenyls.

ft Feet.

-- Not available.

D Compound concentration determined at a secondary dilution factor.

E Compound concentration exceeded the calibration range of the instrument.

J Estimated value.

C Result confirmed by gas chromatography/mass spectrometry.

R Unusable value.

Dup. Duplicate.

* Sample analyzed by U.S. Environmental Protection Agency (USEPA) SW-846 method 8081.

Table 3-8. Detected Compounds in Soil/Residuals - PCBs, July/August 1993,
12th Street Landfill Operable Unit, Plainwell, Michigan.

	SB-1	SB-1*	SB-1*	SB-1 (Dup)*	SB-2	SB-2	SB-2	SB-2*
Sample Location:	SB-1	SB-1*	SB-1*	(Dup)*	SB-2	SB-2	SB-2	SB-2*
Sample Depth:	24-26 ft	26-28 ft	26-28 ft	26-28 ft	8-10 ft	18-20 ft	20-22 ft	22-24 ft
Sample ID:	T90101	T90097	T90098	T90099	T90061	T90066	T90067	T90068
Sample Date:	08/13/93	08/13/93	08/13/93	08/13/93	08/05/93	08/05/93	08/05/93	08/05/93
Matrix:	Residuals	Residuals	Soil	Soil	Residuals	Residuals	Residuals	Residuals
Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Parameters								
Aroclor-1016	<2.4 J	<0.67 J	<0.036	<0.035	<0.15 J	<0.91	<0.20	<0.60
Aroclor-1221	<2.4 J	<1.4 J	<0.073	<0.071	<0.15 J	<0.91	<0.20	<1.2
Aroclor-1232	<2.4 J	<0.67 J	<0.036	<0.035	<0.15 J	<0.91	<0.20	<0.60
Aroclor-1242	29 J	<0.67 J	0.097	0.18	<0.15 J	1.9	3.2	<0.60
Aroclor-1248	28 J	47 DC	<0.036	<0.035	<0.15 J	<0.91	<0.20	<0.60
Aroclor-1254	<2.4 J	<0.67 J	<0.036	<0.035	<0.15 J	2.1	<0.20	<0.60
Aroclor-1260	<2.4 J	R	<0.036	<0.035	0.12 J	<0.91	0.34	<0.60
Total PCBs	57	47	0.097	0.18	0.12	4	3.54	0

mg/kg Milligrams per kilogram.

PCB Polychlorinated biphenyls.

ft Feet.

-- Not available.

D Compound concentration determined at a secondary dilution factor.

E Compound concentration exceeded the calibration range of the instrument.

J Estimated value.

C Result confirmed by gas chromatography/mass spectrometry.

R Unusable value.

Dup. Duplicate.

* Sample analyzed by U.S. Environmental Protection Agency (USEPA) SW-846 method 8081.

Table 3-8. Detected Compounds in Soil/Residuals - PCBs, July/August 1993,
12th Street Landfill Operable Unit, Plainwell, Michigan.

Sample Location:	SB-2*	SB-4	SB-4	SB-4	SB-4*	SB-4*	SB-4	SB-5
Sample Depth:	22-24 ft	4-6 ft	22-24 ft	24-26 ft	26-28 ft	26-28 ft	26-28 ft	8-10 ft
Sample ID:	T90069	T90077	T90076	T90075	T90072	T90073	T90074	T90095
Sample Date:	08/05/93	08/10/93	08/10/93	08/10/93	08/10/93	08/10/93	08/10/93	08/12/93
Matrix:	Soil	Residuals	Residuals	Residuals	Residuals	Soil	Soil	Residuals
Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Parameters								
Aroclor-1016	<0.40	0.069 J	<1.6 J	<1.7 J	<0.35 J	<0.074	<0.057 J	1.8 J
Aroclor-1221	<0.82	<0.11 J	<1.6 J	<1.7 J	<0.71 J	<0.15	<0.057 J	<1.8 J
Aroclor-1232	<0.40	<0.11 J	<1.6 J	<1.7 J	<0.35 J	<0.074	<0.057 J	<1.8 J
Aroclor-1242	<0.40	<0.11 J	3.7 J	4.2 J	<0.35 J	<0.074	<0.057 J	<1.8 J
Aroclor-1248	4.3 C	<0.11 J	21 J	20 J	6.6 J	<0.074	<0.057 J	<1.8 J
Aroclor-1254	<0.40	<0.11 J	3.2 J	4.3 J	<0.35 J	<0.074	<0.057 J	5.1 J
Aroclor-1260	1.4 C	0.23 J	1.1 J	0.88 J	0.64 J	<0.074	<0.057 J	<1.8 J
Total PCBs	5.7	0.299	29	29.38	7.24	0	0	6.9

mg/kg Milligrams per kilogram.

PCB Polychlorinated biphenyls.

ft Feet.

-- Not available.

D Compound concentration determined at a secondary dilution factor.

E Compound concentration exceeded the calibration range of the instrument.

J Estimated value.

C Result confirmed by gas chromatography/mass spectrometry.

R Unusable value.

Dup. Duplicate.

* Sample analyzed by U.S. Environmental Protection Agency (USEPA) SW-846 method 8081.

Table 3-8. Detected Compounds in Soil/Residuals - PCBs, July/August 1993,
12th Street Landfill Operable Unit, Plainwell, Michigan.

	Sample Location:	SB-5	SB-5*	SB-5*	SB-6	SB-6	SB-6	SB-6*	MS/MSD SB-6*
	Sample Depth:	12-14 ft	20-22 ft	20-22 ft	4-6 ft	14-16 ft	18-20 ft	20-22 ft	20-22 ft
	Sample ID:	T90096	T90089	T90090	T90091	T90092	T90093	T90085	T90086
	Sample Date:	08/12/93	08/12/93	08/12/93	08/12/93	08/12/93	08/12/93	08/13/93	08/12/93
	Matrix:	Soil	Soil	Soil	Residuals	Residuals	Soil	Residuals	Residuals
	Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Parameters									
Aroclor-1016		<0.054	<0.037	<0.036	<0.062	<0.088	<0.16	<0.62	<0.70
Aroclor-1221		<0.054	<0.074	<0.073	<0.062	<0.088	<0.16	<1.3	<1.4
Aroclor-1232		<0.054	<0.037	<0.036	<0.062	<0.088	<0.16	<0.62	<0.70
Aroclor-1242		<0.054	0.034 J	0.05	<0.062	0.18	<0.16	7.7 C	<0.70
Aroclor-1248		0.089	<0.037	<0.036	<0.062	<0.088	<0.16	<0.62	18
Aroclor-1254		0.024 J	<0.037	<0.036	<0.062	0.71	<0.16	<0.62	<0.70
Aroclor-1260		<0.054	<0.037	<0.036	<0.062	0.11	<0.16	<0.62	0.36
Total PCBs		0.113	0.034	0.05	0	1	0	7.7	18.36

mg/kg Miliigrams per kilogram.

PCB Polychlorinated biphenyls.

ft Feet.

-- Not available.

D Compound concentration determined at a secondary dilution factor.

E Compound concentration exceeded the calibration range of the instrument.

J Estimated value.

C Result confirmed by gas chromatography/mass spectrometry.

R Unusable value.

Dup. Duplicate.

* Sample analyzed by U.S. Environmental Protection Agency (USEPA) SW-846 method 8081.

MS/MSD This sample was designated as the matrix spike/matrix spike duplicate sample. This sample was also analyzed without the addition of the matrix spike/matrix spike duplicate compounds.

Table 3-8. Detected Compounds in Soil/Residuals - PCBs, July/August 1993,
12th Street Landfill Operable Unit, Plainwell, Michigan.

Sample Location:	MS/MSD							
	SB-6	SB-6*	SB-6*	SB-7	SB-7	SB-7	SB-7	SB-7*
Sample Depth:	20-22 ft	24-26 ft	24-26 ft	8-10 ft	18-20 ft	20-22 ft	22-24 ft	24-26 ft
Sample ID:	T90094	T90087	T90088	T90084	T90083	T90082	T90081	T90078
Sample Date:	08/12/93	08/12/93	08/12/93	08/12/93	08/12/93	08/12/93	08/12/93	08/12/93
Matrix:	Residuals	Soil	Soil	Residuals	Residuals	Residuals	Residuals	Residuals
Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Parameters								
Aroclor-1016	<0.82	<0.035 J	<0.035 J	0.058 J	<55 J	<8.3 J	<2.4 J	<1.8 J
Aroclor-1221	<0.82	<0.071 J	<0.071 J	<0.14 J	<55 J	<8.3 J	<2.4 J	<3.6 J
Aroclor-1232	<0.82	<0.035 J	<0.035 J	<0.14 J	<55 J	<8.3 J	<2.4 J	<1.8 J
Aroclor-1242	8.1	<0.035 J	<0.035 J	<0.14 J	140 J	120 J	50 E	120 C
Aroclor-1248	2.6	<0.035 J	0.082 J	<0.14 J	<55 J	<8.3 J	<2.4 J	<1.8 J
Aroclor-1254	0.86	<0.035 J	<0.035 J	<0.14 J	<55 J	<8.3 J	<2.4 J	<1.8 J
Aroclor-1260	<0.82	<0.035 J	<0.035 J	0.19 J	<55 J	<8.3 J	2.2 J	7.9 C
Total PCBs	11.56	0	0.082	0.248	140	120	52.2	127.9

mg/kg Milligrams per kilogram.

PCB Polychlorinated biphenyls.

ft Feet.

-- Not available.

D Compound concentration determined at a secondary dilution factor.

E Compound concentration exceeded the calibration range of the instrument.

J Estimated value.

C Result confirmed by gas chromatography/mass spectrometry.

R Unusable value.

Dup. Duplicate.

* Sample analyzed by U.S. Environmental Protection Agency (USEPA) SW-846 method 8081.

MS/MSD This sample was designated as the matrix spike/matrix spike duplicate sample. This sample was also analyzed without the addition of the matrix spike/matrix spike duplicate compounds.

Table 3-8. Detected Compounds in Soil/Residuals - PCBs, July/August 1993,
12th Street Landfill Operable Unit, Plainwell, Michigan.

	SB-7							
Sample Location:	(Dup)*	SB-7*	MW-1*	MW-1*	MW-2B*	MW-2B*	MW-2B	MW-2B
Sample Depth:	24-26 ft	24-26 ft	6-8 ft	6-8 ft	3-5 ft	5-6 ft	14-16 ft	24-26 ft
Sample ID:	T90079	T90080	T90105	T90106	T90029	T90030	T90041	T90042
Sample Date:	08/12/93	08/12/93	08/17/93	08/17/93	07/30/93	07/30/93	08/03/93	08/03/93
Matrix:	Residuals	Soil	Residuals	Soil	Residuals	Soil	Soil	Soil
Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Parameters								
Aroclor-1016	<0.78 J	<0.85	<0.47	<0.13	<0.057 J	<0.16 J	<0.056 J	<0.059 J
Aroclor-1221	<1.6 J	<1.7	<0.95	<0.26	<1.2 J	<0.34 J	<0.056 J	<0.059 J
Aroclor-1232	<0.7 J	<0.85	<0.47	<0.13	<0.057 J	<0.16 J	<0.056 J	<0.059 J
Aroclor-1242	64 D	4.7	<0.47	0.440	<0.057 J	<0.16 J	<0.056 J	<0.059 J
Aroclor-1248	<0.78 J	<0.85	3.1 CJ	<0.13	22 DC	1.1 J	0.027 J	<0.059 J
Aroclor-1254	<0.78 J	<0.85	2.1 C	<0.13	<0.057 J	<0.16 J	<0.056 J	<0.059 J
Aroclor-1260	R	<0.85	1.5 CJ	<0.13	1.5 J	<0.16 J	<0.056 J	<0.059 J
Total PCBs	64	4.7	6.7	0.44	23.5	1.1	0.027	0

mg/kg Milligrams per kilogram.

PCB Polychlorinated biphenyls.

ft Feet.

-- Not available.

D Compound concentration determined at a secondary dilution factor.

E Compound concentration exceeded the calibration range of the instrument.

J Estimated value.

C Result confirmed by gas chromatography/mass spectrometry.

R Unusable value.

Dup. Duplicate.

* Sample analyzed by U.S. Environmental Protection Agency (USEPA) SW-846 method 8081.

Table 3-8. Detected Compounds in Soil/Residuals - PCBs, July/August 1993,
12th Street Landfill Operable Unit, Plainwell, Michigan.

Sample Location:	MW-3*	MW-3*	MW-3	MW-4B*	MW-4B*	MW-4	MW-5	MW-5
Sample Depth:	2-4 ft	2-4 ft	12-14 ft	2-4 ft	2-4 ft	10-12 ft	0-2 ft	0-2 ft
Sample ID:	T90032	T90033	T90034	T90027	T90028	T90026	T90036	T90039
Sample Date:	07/30/93	07/30/93	07/30/93	08/03/93	08/03/93	07/29/93	07/30/93	07/30/93
Matrix:	Soil	Residuals	Soil	Soil	Residuals	Soil	Soil	Residuals
Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Parameters								
Aroclor-1016	<0.39	<0.46 J	<0.057	<0.53	<0.10	<0.054	<0.040	<0.56 J
Aroclor-1221	<0.079	<0.94 J	<0.057	<1.1	<0.21	<0.054	<0.082	<1.1 J
Aroclor-1232	<0.039	<0.46 J	<0.057	<0.53	<0.10	<0.054	<0.040	<0.56 J
Aroclor-1242	<0.039	<0.46 J	0.18	<0.53	<0.10	<0.054	<0.040	<0.56 J
Aroclor-1248	0.053 J	4.8 JC	0.044 J	49 DC	0.47 J	0.033 J	0.40	27 J
Aroclor-1254	<0.039	<0.46 J	<0.057	<0.53	0.18 JN	<0.054	<0.040	<0.56 J
Aroclor-1260	<0.039	0.31 JC	<0.057	2.6 C	0.23	<0.054	0.056	1.6 J
Total PCBs	0.053	5.11	0.224	51.6	0.88	0.033	0.456	28.6

mg/kg Milligrams per kilogram.

PCB Polychlorinated biphenyls.

ft Feet.

-- Not available.

D Compound concentration determined at a secondary dilution factor.

E Compound concentration exceeded the calibration range of the instrument.

J Estimated value.

C Result confirmed by gas chromatography/mass spectrometry.

R Unusable value.

Dup. Duplicate.

* Sample analyzed by U.S. Environmental Protection Agency (USEPA) SW-846 method 8081.

Table 3-8. Detected Compounds in Soil/Residuals - PCBs, July/August 1993,
12th Street Landfill Operable Unit, Plainwell, Michigan.

	MW-5	MW-5	MW-6B	MW-6B	MW-6B	MW-7B	MW-7B	MW-7B
Sample Location:	MW-5	MW-5	MW-6B	MW-6B	MW-6B	MW-7B	MW-7B	MW-7B
Sample Depth:	10-12 ft	20-22 ft	6-8 ft	16-18 ft	22-24 ft	8-10 ft	13-15 ft	(Dup) 13-15 ft
Sample ID:	T90037	T90038	T90043	T90044	T90045	T90046	T90047	T90049
Sample Date:	07/30/93	07/30/93	08/03/93	08/03/93	08/03/93	08/05/93	08/05/93	08/05/93
Matrix:	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Parameters								
Aroclor-1016	<0.055	<0.061	<0.037	<0.054 J	<0.053 J	<0.038	<0.055	<0.054
Aroclor-1221	<0.055	<0.061	<0.075	<0.054 J	<0.053 J	<0.076	<0.055	<0.054
Aroclor-1232	<0.055	<0.061	<0.037	<0.054 J	<0.053 J	<0.038	<0.055	<0.054
Aroclor-1242	<0.055	<0.061	<0.037	<0.054 J	<0.053 J	<0.038	<0.055	<0.054
Aroclor-1248	0.060	0.087	<0.037	<0.054 J	<0.053 J	<0.038	<0.055	<0.054
Aroclor-1254	<0.055	<0.061	<0.037	<0.054 J	<0.053 J	<0.038	<0.055	<0.054
Aroclor-1260	<0.055	<0.061	<0.037	<0.054 J	<0.053 J	<0.038	<0.055	<0.054
Total PCBs	0.06	0.087	0	0	0	0	0	0

mg/kg Milligrams per kilogram.

PCB Polychlorinated biphenyls.

ft Feet.

-- Not available.

D Compound concentration determined at a secondary dilution factor.

E Compound concentration exceeded the calibration range of the instrument.

J Estimated value.

C Result confirmed by gas chromatography/mass spectrometry.

R Unusable value.

Dup. Duplicate.

* Sample analyzed by U.S. Environmental Protection Agency (USEPA) SW-846 method 8081.

Table 3-8. Detected Compounds in Soil/Residuals - PCBs, July/August 1993,
12th Street Landfill Operable Unit, Plainwell, Michigan.

Sample Location:	MW-7B	MW-8B
Sample Depth:	24-26 ft	30-32
Sample ID:	T90048	T90103
Sample Date:	08/05/93	08/17/93
Matrix:	Soil	Soil
Units:	mg/kg	mg/kg
Parameters		
Aroclor-1016	<0.28	<0.18
Aroclor-1221	<0.28	<0.036
Aroclor-1232	<0.28	<0.073
Aroclor-1242	1.7	<0.036
Aroclor-1248	<0.28	<0.036
Aroclor-1254	<0.28	<0.036
Aroclor-1260	<0.28	<0.036
Total PCBs	1.7	0

mg/kg Milligrams per kilogram.

PCB Polychlorinated biphenyls.

ft Feet.

-- Not available.

D Compound concentration determined at a secondary dilution factor.

E Compound concentration exceeded the calibration range of the instrument.

J Estimated value.

C Result confirmed by gas chromatography/mass spectrometry.

R Unusable value.

Dup. Duplicate.

* Sample analyzed by U.S. Environmental Protection Agency (USEPA) SW-846 method 8081.

Appendix 3

**Allied Paper Inc./Portage Creek/Kalamazoo River Superfund Site
12th Street Landfill Paper Residual Delineation in Former Discharge Channel**

Core ID	Sample ID	Collection Date	Collection Time	Depth Interval (ft)	Core Description	Visual Evidence of Residual Material	Analysis	Comments
1	T90109	2/19/01	14:20	0-0.4	Dark brown organics (leaves) and dark brown fine sand, with silt, trace coarse sand and brick chunks		PCBs	
2	-	2/19/01	15:30	0-0.3 0.3-0.7	Brown medium to coarse sand, trace fine sand and fine gravel Gray silt and clay, little sand and gravel	TRUE	-	Core thrown out since it looked to contain paper residual in bottom interval.
3	T90110 T90111	2/20/01	8:30	0-0.3 0.3-0.4	Brown medium to coarse sand, trace fine sand and fine gravel Gray silt and clay, trace fine sand	TRUE	HOLD HOLD	Hold pending results of T90124-T90125 and T90136-T90137. Hold pending results of T90124-T90125 and T90136-T90137.
4	T90112 T90113	2/20/01	10:30	0-0.5 0.5-0.8	Dark brown silt and organics Dark gray fine sand and silt, trace coarse sand and gravel	TRUE	HOLD HOLD	Hold pending results of T90126-T90127 and T90138-T90140 Hold pending results of T90126-T90127 and T90138-T90140
5	T90114 T90115 T90116	2/20/01	11:30	0-0.5 0.5-0.8 0.8-1.0	Dark brown organic silt, trace fine sand and wood Dark brown organic silt, trace fine sand and wood Gray silt, some clay, trace coarse sand and gravel	TRUE	HOLD HOLD HOLD	Hold pending results of T90128 and T90142 Hold pending results of T90128 and T90142. Hold pending results of T90128 and T90142.
6	T90117	2/20/01	13:30	0-0.55	Dark gray silt, little clay, trace fine sand	TRUE	PCBs	
7	T90118 T90119	2/20/01	14:15	0-0.5 0.5-1.0 1.0-1.2	Brown fine to coarse sand, trace shells Brown fine to coarse sand, trace shells Dark brown to black fine to coarse sand, trace shells, organics		PCBs PCBs -	Core described and thrown out.
8	T90120 T90121	2/19/01	14:30	0-0.5 0.5-1.0 1.0-1.2	Brown medium to coarse sand, trace medium gravel and dark gray silt (at top) Brown coarse sand and gravel Brown coarse sand and gravel		PCBs PCBs -	Core described and thrown out
9	T90122 T90123	2/19/01	16:15	0-0.5 0.5-1.0	Dark brown silt Brown to gray fine to medium sand, trace coarse sand and large gravel and silt		PCBs PCBs	
10	T90124 T90125	2/20/01	9:00	0-0.7 0.7-1.0 1.0-1.8	Dark brown silt, trace fine sand Brown to Tan medium to coarse sand, trace gray fine sand and silt and medium to coarse gravel Brown to Tan medium to coarse sand, trace gray fine sand and silt and medium to coarse		PCBs PCBs -	Core described and thrown out.
11	T90126 T90127	2/20/01	11:00	0-0.5 0.5-0.8	Dark brown silt and organics Dark brown to dark gray silt and fine sand, some medium to coarse sand		PCBs PCBs	
12	T90128	2/20/01	12:50	0-0.3	Dark brown silt and organics		PCBs	
13	T90129 T90130	2/20/01	13:35	0-0.5 0.5-1.0 1.0-2.5	Brown to dark brown fine sand, trace silt and shells Dark gray to brown fine sand Brown fine to medium sand, trace coarse sand and dark brown fine sand		PCBs PCBs -	Core described and thrown out.
14	T90131 T90132	2/20/01	14:30	0-0.5 0.5-1.0 1.0-1.5 1.5-2.4	Dark gray fine to medium sand, trace silt Dark gray fine to medium sand, trace silt Dark gray fine to medium sand, trace silt Brown medium to coarse sand		PCBs PCBs - -	Took duplicate sample - T90133 Took MS/MSD
15	T90134	2/19/01	15:00	0-0.5	Brown medium to coarse sand, trace fine sand and silt and stiff brown clay at bottom		PCBs	
16	T90135	2/19/01	16:40	0-0.5	Brown silt at surface, brown medium to coarse sand, some silt and fine sand, trace gravel		PCBs	
17	T90136 T90137	2/20/01	9:30	0-0.5 0.5-0.8	Brown silt Dark brown silt, trace fine sand and gravel		PCBs PCBs	
18	T90138 T90139 T90140 T90141	2/20/01	11:15	0-0.5 0.5-0.8 0.8-1.0 1.0-1.2	Dark brown silt Dark brown silt, trace fine sand Dark brown to gray silt, trace fine sand Gray silty clay, strong diesel/petroleum odor	TRUE	PCBs PCBs PCBs HOLD	Hold pending results of T90126-T90127 and T90138-T90140.
19	T90142	2/20/01	13:15	0-0.25	Brown fine to medium sand and silt, trace coarse sand and gravel		PCBs	
20	T90143 T90144	2/20/01	13:55	0-0.5 0.5-1.0 1.0-2.0 2.0-2.7	Dark brown fine sand, little silt Dark brown fine sand and silt, organics Dark brown to dark gray fine sand and organics Brown medium to coarse sand		PCBs PCBs - -	Took duplicate sample - T90145 Core described and thrown out. Core described and thrown out.
21	T90146 T90147	2/20/01	14:40	0-0.5 0.5-0.7	Brown medium to coarse sand, some gravel Gray silty clay, strong diesel/petroleum odor	TRUE	PCBs PCBs	
25	-	2/20/01	11:20	0-1.1 1.1-1.4	Dark brown silt Gray silty clay, strong diesel/petroleum odor	TRUE	-	Did not section; on hold in freezer at BBL office. Did not section; on hold in freezer at BBL office
26	-	2/20/01	15:35	0-0.8	Dark brown silt		-	Did not section; on hold in freezer at BBL office

NOTE:

(1) Recovery booms were greatest near sample locations 13, 14, and 20 because the current was swirling and it appeared to be a depositional area for sand and gravel.

0006075

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2/1/01

**Allied Paper Inc./Portage Creek/Kalamazoo River Superfund Site
12th Street Landfill Paper Residual Delineation in Former Discharge Channel**

Core ID	Sample ID	Collection Date	Collection Time	Depth Interval (ft)	Core Description	Visual Evidence of Residual Material	Analysis	Comments
1	T90109	2/19/01	14 20	0-0.4	Dark brown organics (leaves) and dark brown fine sand, with silt, trace coarse sand and brick chunks		PCBs	
2	-	2/19/01	15 30	0-0.3 0.3-0.7	Brown medium to coarse sand, trace fine sand and fine gravel Gray silt and clay, little sand and gravel	TRUE	-	Core thrown out since it looked to contain paper residual in bottom interval
3	T90110 T90111	2/20/01	8 30	0-0.3 0.3-0.4	Brown medium to coarse sand, trace fine sand and fine gravel Gray silt and clay, trace fine sand	TRUE	HOLD HOLD	Hold pending results of T90124-T90125 and T90136-T90137 Hold pending results of T90124-T90125 and T90136-T90137
4	T90112 T90113	2/20/01	10 30	0-0.5 0.5-0.8	Dark brown silt and organics Dark gray fine sand and silt, trace coarse sand and gravel	TRUE	HOLD HOLD	Hold pending results of T90126-T90127 and T90138-T90140 Hold pending results of T90126-T90127 and T90138-T90140
5	T90114 T90115 T90116	2/20/01	11 30	0-0.5 0.5-0.8 0.8-1.0	Dark brown organic silt, trace fine sand and wood Dark brown organic silt, trace fine sand and wood Gray silt, some clay, trace coarse sand and gravel	TRUE	HOLD HOLD HOLD	Hold pending results of T90128 and T90142 Hold pending results of T90128 and T90142 Hold pending results of T90128 and T90142
6	T90117	2/20/01	13 30	0-0.55	Dark gray silt, little clay, trace fine sand	TRUE	PCBs	
7	T90118 T90119	2/20/01	14 15	0-0.5 0.5-1.0 1.0-1.2	Brown fine to coarse sand, trace shells Brown fine to coarse sand, trace shells Dark brown to black fine to coarse sand, trace shells, organics		PCBs PCBs -	Core described and thrown out
8	T90120 T90121	2/19/01	14 30	0-0.5 0.5-1.0 1.0-1.2	Brown medium to coarse sand, trace medium gravel and dark gray silt (at top) Brown coarse sand and gravel Brown coarse sand and gravel		PCBs PCBs -	Core described and thrown out
9	T90122 T90123	2/19/01	16 15	0-0.5 0.5-1.0	Dark brown silt Brown to gray fine to medium sand, trace coarse sand and large gravel and silt		PCBs PCBs	
10	T90124 T90125	2/20/01	9 00	0-0.7 0.7-1.0 1.0-1.8	Dark brown silt, trace fine sand Brown to Tan medium to coarse sand, trace gray fine sand and silt and medium to coarse gravel Brown to Tan medium to coarse sand, trace gray fine sand and silt and medium to coarse gravel		PCBs -	Core described and thrown out
11	T90126 T90127	2/20/01	11 00	0-0.5 0.5-0.8	Dark brown silt and organics Dark brown to dark gray silt and fine sand, some medium to coarse sand		PCBs PCBs	
12	T90128	2/20/01	12 50	0-0.3	Dark brown silt and organics		PCBs	
13	T90129 T90130	2/20/01	13 35	0-0.5 0.5-1.0 1.0-2.5	Brown to dark brown fine sand, trace silt and shells Dark gray to brown fine sand Brown fine to medium sand, trace coarse sand and dark brown fine sand		PCBs PCBs -	Core described and thrown out.
14	T90131 T90132	2/20/01	14 30	0-0.5 0.5-1.0 1.0-1.5 1.5-2.4	Dark gray fine to medium sand, trace silt Dark gray fine to medium sand, trace silt Dark gray fine to medium sand, trace silt Brown medium to coarse sand		PCBs PCBs -	Took duplicate sample - T90133 Took MS/MSD
15	T90134	2/19/01	15 00	0-0.5	Brown medium to coarse sand, trace fine sand and silt and stiff brown clay at bottom		PCBs	
16	T90135	2/19/01	16 40	0-0.5	Brown silt at surface, brown medium to coarse sand, some silt and fine sand, trace gravel		PCBs	
17	T90136 T90137	2/20/01	9 30	0-0.5 0.5-0.8	Brown silt Dark brown silt, trace fine sand and gravel		PCBs PCBs	
18	T90138 T90139 T90140 T90141	2/20/01	11 15	0-0.5 0.5-0.8 0.8-1.0 1.0-1.2	Dark brown silt Dark brown silt, trace fine sand Dark brown to gray silt, trace fine sand Gray silty clay, strong diesel/petroleum odor	TRUE	PCBs PCBs PCBs HOLD	Hold pending results of T90126-T90127 and T90138-T90140
19	T90142	2/20/01	13 15	0-0.25	Brown fine to medium sand and silt, trace coarse sand and gravel		PCBs	
20	T90143 T90144	2/20/01	13 55	0-0.5 0.5-1.0 1.0-2.0 2.0-2.7	Dark brown fine sand, little silt Dark brown fine sand and silt, organics Dark brown to dark gray fine sand and organics Brown medium to coarse sand		PCBs PCBs -	Took duplicate sample - T90145 Core described and thrown out Core described and thrown out
21	T90146 T90147	2/20/01	14 40	0-0.5 0.5-0.7	Brown medium to coarse sand, some gravel Gray silty clay, strong diesel/petroleum odor	TRUE	PCBs PCBs	
25	-	2/20/01	11 20	0-1.1 1.1-1.4	Dark brown silt Gray silty clay, strong diesel/petroleum odor	TRUE	-	Did not section; on hold in freezer at BBL office Did not section; on hold in freezer at BBL office
26	-	2/20/01	15 35	0-0.8	Dark brown silt		-	Did not section; on hold in freezer at BBL office

NOTE:

(1) Recovery depths were greatest near sample locations 13, 14, and 20 because the current was swirling and it appeared to be a depositional area for sand and gravel

TABLE 1

**ALLIED PAPER, INC./PORTAGE CREEK/KALAMAZOO RIVER
SUPERFUND SITE**

Summary of Sediment Sampling near 12th Street Landfill OU
Data Sorted by PCB Concentration

Location ID	Sample ID	Segment Depth (ft)	Description	PCB (mg/kg)
21	T90147	0.5-0.7	Clay and silt	34
18	T90140	0.8-1.0	Silt	9.0
11	T90126	0-0.5	Silt with organics	4.0
18	T90139	0.5-0.8	Silt	3.7
9	T90122	0-0.5	Silt	3.5 J
10	T90124	0-0.7	Silt	2.8 J
20	T90144	0.5-1.0	Sand, silt and organics	2.2 J
12	T90128	0-0.3	Silt with organics	1.9 J
11	T90127	0.5-0.75	Silt and sand	1.9 J
18	T90138	0-0.5	Silt	1.8 J
1	T90109	0-0.4	Sand, silt and organics	1.3
17	T90136	0-0.5	Silt	1.3 J
17	T90137	0.5-0.8	Silt	0.83
9	T90123	0.5-1.0	Sand	0.51
14	T90131 [T90133]	0-0.5	Sand	0.41 [0.56]
13	T90129	0-0.5	Sand	0.44 J
14	T90132	0.5-1.0	Sand	0.43
13	T90130	0.5-1.0	Sand	0.38 J
8	T90120	0-0.5	Sand, some silt and gravel	0.34 J
16	T90135	0-0.5	Sand, some silt and gravel	0.25
20	T90143 [T90145]	0-0.5	Sand	0.21 J [0.36 J]
19	T90142	0-0.25	Sand and silt	0.21 J
6	T90117	0-0.5	Silt, gravel and sand	0.16
15	T90134	0-0.5	Sand	0.15
7	T90119	0.5-1.0	Sand, some silt and organics	0.13 J
21	T90146	0-0.5	Sand, some gravel	0.10
7	T90118	0-0.5	Sand	0.085 J
10	T90125	0.7-1.0	Sand, some gravel	0.038 J
8	T90121	0.5-1.0	Sand, some gravel	ND (< 0.052)

12th Street Dioxin/Furan TEQ Values*

Sum of TEQ	
SamplD	Total
TP-01	140.6106
TP-04	111.0584
TP-10	888.323
TP-10 DUP	1364.975
TP-10 Reextract.	2241.44
Grand Total	4746.407

* Units are ng/kg TEQdf-WHO98



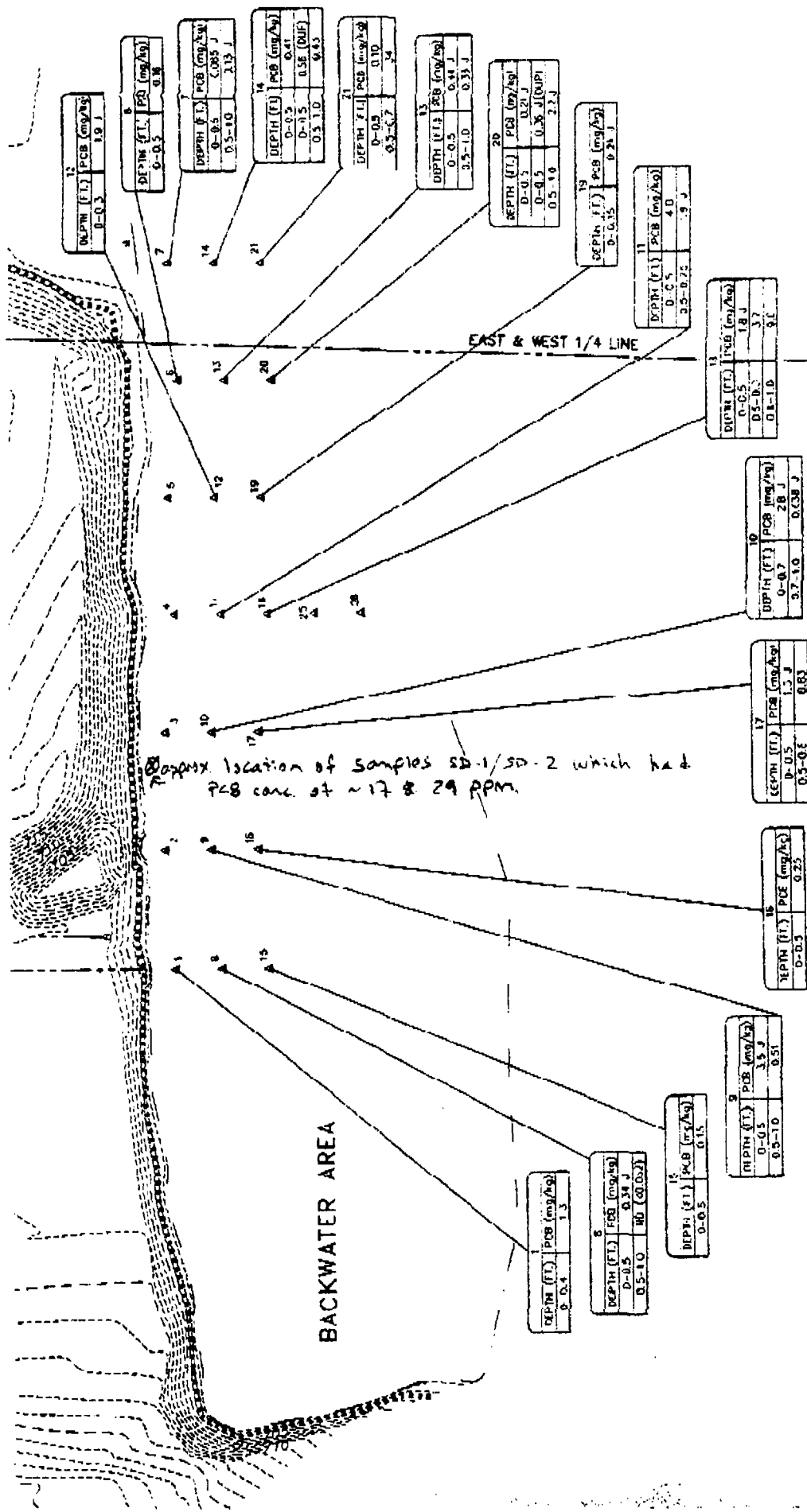
MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

REMEDIATION AND REDEVELOPMENT DIVISION

FAX COVER SHEET

ISSUED UNDER THE AUTHORITY OF ACT 451, P.A. 1994 AS AMENDED

Date Sent: <u>January 16, 2003</u>	To Machine # <u>312-886-4071</u>
Time Sent: <u>10:45 EST</u>	From Machine # <u>517-335-4887</u>
PLEASE DELIVER THE FOLLOWING PAGES TO:	
Name: <u>Tim Prendville</u>	
Company/Division: <u>Region 5 EPA</u>	
Phone: <u>312-886-5122</u>	
SENT FROM:	
Name: <u>Keith Krawczyk</u>	
Section/Division: <u>SUPERFUND SECTION, REMEDIATION AND REDEVELOPMENT DIVISION</u>	
Phone: <u>517-335-4103</u>	
TOTAL NUMBER OF PAGES (INCLUDING THIS COVER SHEET): <u>Two</u>	
COMMENTS: <u>See attached map</u>	
IF ALL PAGES ARE NOT RECEIVED, PLEASE CALL:	
Name: <u>Keith</u>	
Phone: <u>517-335-4103</u>	



Note: Samples were not analyzed from Core locations 2, 3, 4, & 5 because they contain obvious residuals that are contiguous/part of the landfill.

The samples were collected in Feb. 2001, with the exception at SD-1/SD-2, which were collected during the RI.

Blasland, Bouck & Lee, Inc. collected the samples.

Appendix 4



**Environmental Design
International inc.**

200 S. Michigan Avenue, Suite 700
Chicago, Illinois 60604

phone 312.356.5400
fax: 312.356.5499

October 16, 2003

Mr. Tim Prendiville
USEPA Region 5 Superfund Division
77 West Jackson Boulevard
Chicago, Illinois 60604

**Re: STAT Contract, Task Order 0003, 12th Street Landfill, Plainwell, Michigan,
Field Notes and Pictures**

Dear Mr. Prendiville:

Environmental Design International inc. (EDI) conducted the floodplain soil, exposed sediment, and channel sediment sampling at the 12th Street Landfill located in Plainwell, Michigan in September 2003. Attached is a copy of the field notes for the sampling activities, copies of chain of custody forms (regional TRs), photographs of the field activities, and photographs of each of the sampling location within the floodplain area and the exposed sediment area.

If you have any questions regarding the field notes or supplemental information, please contact me via phone at 312-356-5400 ext 128 or email at zclayton@envdesigni.com. We have enjoyed working on this project with you.

Sincerely,

Environmental Design International inc.

Zachery W. Clayton
Region 5 STAT Site Manager

PHOTOGRAPH LOG

Project Name	12th Street Landfill Kalamazoo River Superfund Site - Site Activities
---------------------	---

<p>Project: 1131.003.03 Date: 9/16-9/18/03 Photographed By: Hilary Janousek</p> <p>Description: View of S. Dileto driving 1.75 inch sleeve into the subsurface for floodplain sample collection.</p> <p>PHOTO #1</p>	 <p>SEP 16 2003</p>
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<p>Project: 1131.003.03 Date: 9/16-9/18/03 Photographed By: Hilary Janousek</p> <p>Description: View of S. Dileto removing 1.75 inch sleeve from the subsurface.</p> <p>PHOTO #2</p>	 <p>SEP 16 2003</p>
---	---

PHOTOGRAPH LOG

Project Name

12th Street Landfill Kalamazoo River Superfund Site - Site Activities

Project: 1131.003.03

Date: 9/16-9/18/03

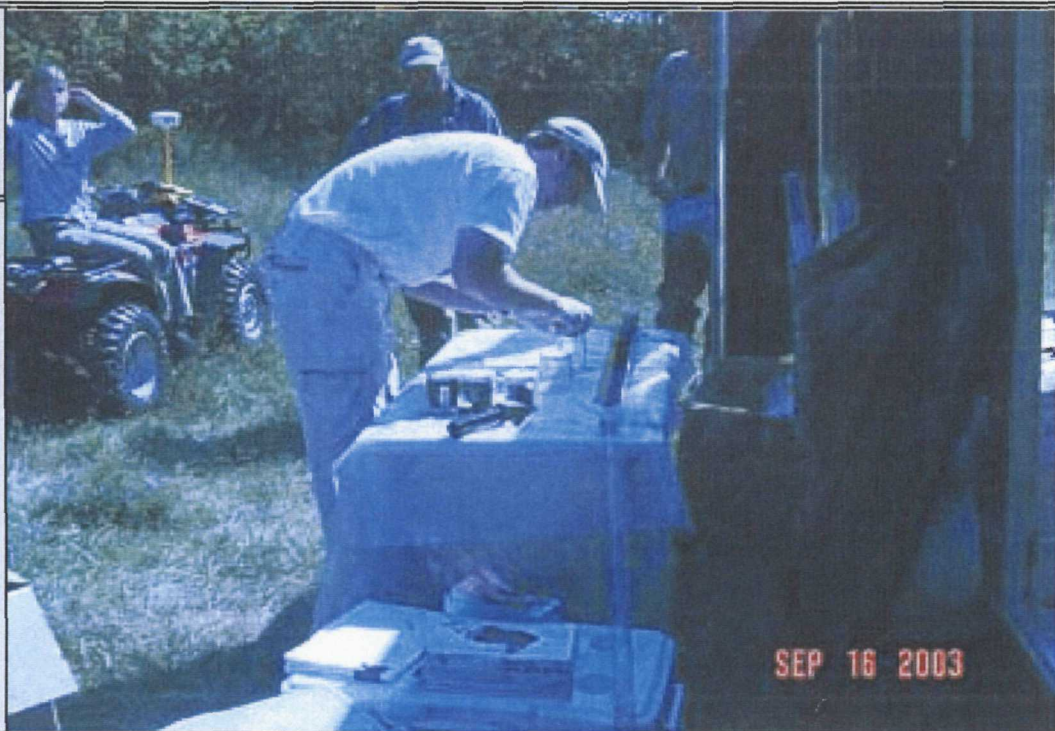
Photographed By:

Hilary Janousek

Description:

**View of floodplain
sample processing
activities**

PHOTO #3



Project: 1131.003.03

Date: 9/16-9/18/03

Photographed By:

Hilary Janousek

Description:


**View of hand auger
method used for
exposed sediment and
floodplain sample
collection.**

PHOTO #4



PHOTOGRAPH LOG

Project Name	12th Street Landfill Kalamazoo River Superfund Site - Site Activities
---------------------	--

<p>Project: 1131.003.03</p> <p>Date: 9/16-9/18/03</p> <p>Photographed By: Hilary Janousek</p> <p>Description: View of decon equipment used for deconning the hand auger and sample processing equipment.</p> <p>PHOTO #5</p>	
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<p>Project: 1131.003.03</p> <p>Date: 9/16-9/18/03</p> <p>Photographed By: Hilary Janousek</p> <p>Description: View of decon activities during sample collection using the hand auger.</p> <p>PHOTO #6</p>	
--	--

PHOTOGRAPH LOG

Project Name

12th Street Landfill Kalamazoo River Superfund Site - Site Activities

Project: 1131.003.03

Date: 9/16-9/18/03

Photographed By:

Scott Dileto

Description:

**View of floodplain
sampling activities
using 3" sleeve**

PHOTO #7



Project: 1131.003.03

Date: 9/16-9/18/03

Photographed By:

Scott Dileto

Description:


**View of 3" sleeve with
rubber cork being
removed from the
subsurface.**

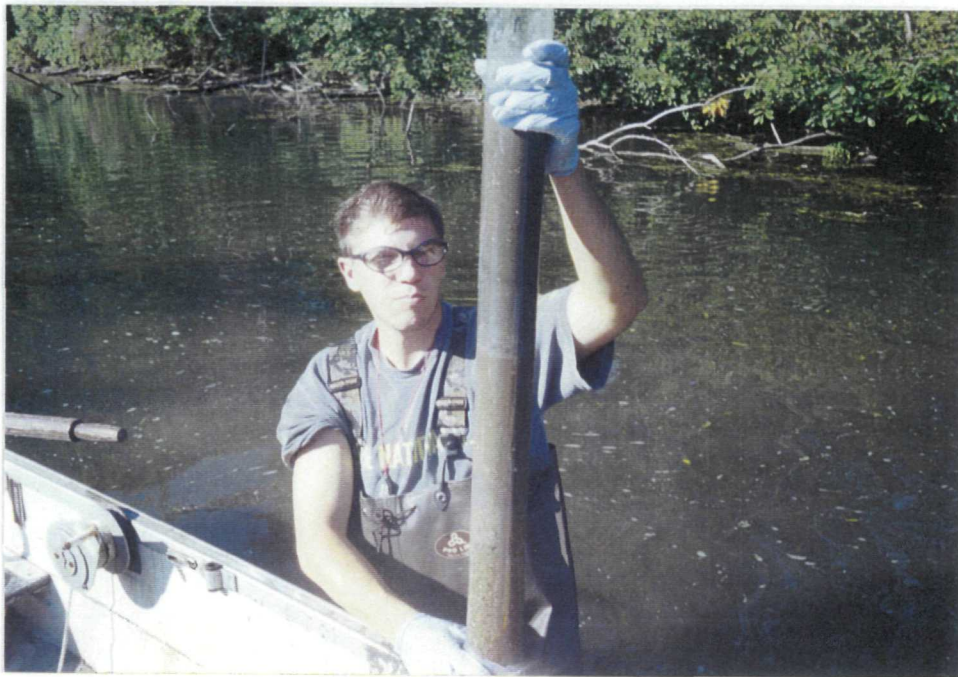
PHOTO #8



PHOTOGRAPH LOG

Project Name	12th Street Landfill Kalamazoo River Superfund Site - Site Activities
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<p>Project: 1131.003.03</p> <p>Date: 9/16-9/18/03</p> <p>Photographed By: Weston</p> <p>Description: View of equipment used for sediment sampling.</p> <p>PHOTO #9</p>	
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<p>Project: 1131.003.03</p> <p>Date: 9/16-9/18/03</p> <p>Photographed By: Weston</p> <p>Description: View of sediment sample collected from the Kalamazoo River.</p> <p>PHOTO #10</p>	
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PHOTOGRAPH LOG

Project Name

12th Street Landfill Kalamazoo River Superfund Site - Site Activities

Project: 1131.003.03

Date: 9/16-9/18/03

Photographed By:

Hilary Janousek

Description:

View of five 55-gallon drums used to contain waste generated during sampling activities.

PHOTO #11



PHOTOGRAPH LOG

Project Name

12th Street Landfill, Kalamazoo River Superfund Site - Sample Locations

Project: 1131.003.03

Date: 9/19/03

Photographed By:

Hilary Janousek

Description:

Floodplain sample
location 1.

PHOTO #1



Project: 1131.003.03

Date: 9/29/03

Photographed By:

Zachery Clayton

Description:

Floodplain sample
location 2.

PHOTO #2



PHOTOGRAPH LOG

Project Name	<i>12th Street Landfill, Kalamazoo River Superfund Site - Sample Locations</i>
---------------------	--

Project: 1131.003.03 Date: 9/19/03 Photographed By: <i>Hilary Janousek</i>	 SEP 19 2003
Description: <i>Floodplain sample location 3.</i> PHOTO #3	

Project: 1131.003.03 Date: 9/29/03 Photographed By: <i>Zachery Clayton</i>	 SEP 29 2003
Description: <i>Floodplain sample location 4.</i> PHOTO #4	

PHOTOGRAPH LOG

Project Name

12th Street Landfill, Kalamazoo River Superfund Site - Sample Locations

Project: 1131.003.03

Date: 9/19/03

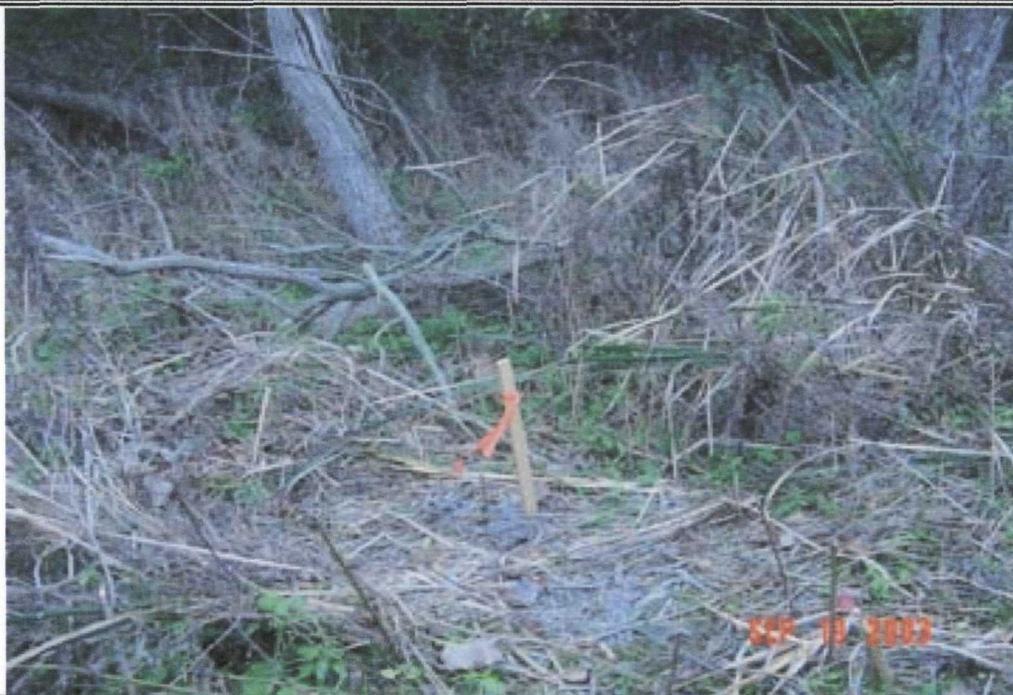
Photographed By:

Hilary Janousek

Description:

**Floodplain sample
location 5.**

PHOTO #5



Project: 1131.003.03

Date: 9/29/03

Photographed By:

Zachery Clayton

Description:

**Floodplain sample
location 6.**

PHOTO #6



PHOTOGRAPH LOG

Project Name	12th Street Landfill, Kalamazoo River Superfund Site - Sample Locations
---------------------	--

Project: 1131.003.03 Date: 9/29/03 Photographed By: Zachery Clayton	
Description: Floodplain sample location 7. PHOTO #7	

Project: 1131.003.03 Date: 9/19/03 Photographed By: Hilary Janousek	
Description: Floodplain sample location 8. PHOTO #8	

PHOTOGRAPH LOG

Project Name	12th Street Landfill, Kalamazoo River Superfund Site - Sample Locations
---------------------	--

Project: 1131.003.03 Date: 9/29/03 Photographed By: Zachery Clayton	
Description: Floodplain sample location 9. PHOTO #9	

Project: 1131.003.03 Date: 9/29/03 Photographed By: Zachery Clayton	
Description: Floodplain sample location 10. PHOTO #10	

PHOTOGRAPH LOG

Project Name	<i>12th Street Landfill, Kalamazoo River Superfund Site - Sample Locations</i>
---------------------	--

<p>Project: 1131.003.03 Date: 9/29/03 Photographed By: Zachery Clayton</p> <p>Description: Floodplain sample location 11.</p> <p>PHOTO #11</p>	
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<p>Project: 1131.003.03 Date: 9/29/03 Photographed By: Zachery Clayton</p> <p>Description: Floodplain sample location 12.</p> <p>PHOTO #12</p>	
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PHOTOGRAPH LOG

Project Name	<i>12th Street Landfill, Kalamazoo River Superfund Site - Sample Locations</i>
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<p>Project: 1131.003.03 Date: 9/19/03 Photographed By: Hilary Janousek</p> <p>Description: Floodplain sample location 13.</p> <p>PHOTO #13</p>	
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<p>Project: 1131.003.03 Date: 9/29/03 Photographed By: Zachery Clayton</p> <p>Description: Floodplain sample location 14.</p> <p>PHOTO #14</p>	
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PHOTOGRAPH LOG

Project Name	<i>12th Street Landfill, Kalamazoo River Superfund Site - Sample Locations</i>
---------------------	--

Project: 1131.003.03 Date: 9/29/03 Photographed By: Zachery Clayton	 <p>SEP 29 2003</p>
Description: Floodplain sample location 15.	
PHOTO #15	

Project: 1131.003.03 Date: 9/29/03 Photographed By: Zachery Clayton	 <p>SEP 29 2003</p>
Description: Floodplain sample location 16.	
PHOTO #16	

PHOTOGRAPH LOG

Project Name	<i>12th Street Landfill, Kalamazoo River Superfund Site - Sample Locations</i>
---------------------	--

Project: 1131.003.03 Date: 9/29/03 Photographed By: Zachery Clayton	 <p>SEP 29 2003</p>
Description: Floodplain sample location 17. PHOTO #17	

Project: 1131.003.03 Date: 9/19/03 Photographed By: Hilary Janousek	 <p>SEP 19 2003</p>
Description: Floodplain sample location 18. PHOTO #18	



PHOTOGRAPH LOG

Project Name	<i>12th Street Landfill, Kalamazoo River Superfund Site - Sample Locations</i>
---------------------	--

Project: 1131.003.03 Date: 9/19/03 Photographed By: Hilary Janousek Description: Floodplain sample location 19. PHOTO #19	
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Project: 1131.003.03 Date: 9/29/03 Photographed By: Zachery Clayton Description: Floodplain sample location 20. PHOTO #20	
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PHOTOGRAPH LOG

Project Name	12th Street Landfill, Kalamazoo River Superfund Site - Sample Locations
<p>Project: 1131.003.03 Date: 9/29/03 Photographed By: Zachery Clayton</p> <p>Description: Floodplain sample location 21.</p> <p>PHOTO #21</p>	 <p>SEP 29 2003</p>
<p>Project: 1131.003.03 Date: 9/29/03 Photographed By: Zachery Clayton</p> <p>Description: Floodplain sample location 22.</p> <p>PHOTO #22</p>	 <p>SEP 29 2003</p>

PHOTOGRAPH LOG

Project Name	<i>12th Street Landfill, Kalamazoo River Superfund Site - Sample Locations</i>
---------------------	--

Project: 1131.003.03 Date: 9/19/03 Photographed By: Hilary Janousek	 <p>SEP 19 2003</p>
Description: Floodplain sample location 23.	
PHOTO #23	

Project: 1131.003.03 Date: 9/29/03 Photographed By: Zachery Clayton	 <p>SEP 29 2003</p>
Description: Floodplain sample location 24.	
PHOTO #24	

PHOTOGRAPH LOG

Project Name	<i>12th Street Landfill, Kalamazoo River Superfund Site - Sample Locations</i>
---------------------	--

Project: 1131.003.03 Date: 9/29/03 Photographed By: Zachery Clayton	 <p>SEP 29 2003</p>
Description: Floodplain sample location 25. PHOTO #25	

Project: 1131.003.03 Date: 9/29/03 Photographed By: Zachery Clayton	 <p>SEP 29 2003</p>
Description: Floodplain sample location 26. PHOTO #26	

PHOTOGRAPH LOG

Project Name

12th Street Landfill, Kalamazoo River Superfund Site - Sample Locations

Project: 1131.003.03

Date: 9/29/03

Photographed By:

Zachery Clayton

Description:

*Floodplain sample
location 27.*

PHOTO #27



Project: 1131.003.03

Date: 9/29/03

Photographed By:

Zachery Clayton

Description:

*Floodplain sample
location 28.*

PHOTO #28



PHOTOGRAPH LOG

Project Name	12th Street Landfill, Kalamazoo River Superfund Site - Sample Locations
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<p>Project: 1131.003.03 Date: 9/29/03 Photographed By: Zachery Clayton</p> <p>Description: Floodplain sample location 29.</p> <p>PHOTO #29</p>	
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<p>Project: 1131.003.03 Date: 9/19/03 Photographed By: Hilary Janousek</p> <p>Description: Floodplain sample location 30.</p> <p>PHOTO #30</p>	
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PHOTOGRAPH LOG

Project Name	<i>12th Street Landfill, Kalamazoo River Superfund Site - Sample Locations</i>
---------------------	--

Project: 1131.003.03 Date: 9/29/03 Photographed By: <i>Zachery Clayton</i>	
Description: <i>Floodplain sample location 31.</i>	
PHOTO #31	

Project: 1131.003.03 Date: 9/19/03 Photographed By: <i>Hilary Janousek</i>	
Description: <i>Floodplain sample location 32.</i>	
PHOTO #32	

PHOTOGRAPH LOG

Project Name	<i>12th Street Landfill, Kalamazoo River Superfund Site - Sample Locations</i>
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Project: 1131.003.03 Date: 9/29/03 Photographed By:	
Description: <i>Floodplain sample location 33.</i> PHOTO #33	

Project: 1131.003.03 Date: 9/19/03 Photographed By: <i>Hilary Janousek</i>	
Description: <i>Floodplain sample location 34.</i> PHOTO #34	

PHOTOGRAPH LOG

Project Name

12th Street Landfill, Kalamazoo River Superfund Site - Sample Locations

Project: 1131.003.03

Date: 9/19/03

Photographed By:

Hilary Janousek

Description:

**Exposed sediment
location 1.**

PHOTO #35



Project: 1131.003.03

Date: 9/19/03

Photographed By:

Hilary Janousek

Description:

**Exposed sediment
location 2.**

PHOTO #36



PHOTOGRAPH LOG

Project Name	12th Street Landfill, Kalamazoo River Superfund Site - Sample Locations
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<p>Project: 1131.003.03 Date: 9/19/03 Photographed By: Hilary Janousek</p>	
<p>Description: Exposed sediment location 3.</p> <p>PHOTO #37</p>	

<p>Project: 1131.003.03 Date: 9/19/03 Photographed By: Hilary Janousek</p>	
<p>Description: Exposed sediment location 4.</p> <p>PHOTO #38</p>	

PHOTOGRAPH LOG

Project Name	12th Street Landfill, Kalamazoo River Superfund Site - Sample Locations
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<p>Project: 1131.003.03 Date: 9/19/03 Photographed By: Hilary Janousek</p> <p>Description: Exposed sediment location 5.</p> <p>PHOTO #39</p>	 <p>SEP 19 2003</p>
---	--

<p>Project: 1131.003.03 Date: 9/19/03 Photographed By: Hilary Janousek</p> <p>Description: Exposed sediment location 6.</p> <p>PHOTO #40</p>	 <p>SEP 19 2003</p>
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PHOTOGRAPH LOG

Project Name	<i>12th Street Landfill, Kalamazoo River Superfund Site - Sample Locations</i>
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<p>Project: 1131.003.03</p> <p>Date: 9/19/03</p> <p>Photographed By: Hilary Janousek</p> <p>Description: Exposed sediment location 7.</p> <p>PHOTO #41</p>	 A photograph showing a dense thicket of green vegetation, including various leafy plants and tall grasses. A white marker with an orange band is visible in the center of the frame, partially obscured by the plants. The ground appears to be a mix of soil and organic matter. In the bottom right corner, there is a red date stamp that reads "SEP 19 2003".
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<p>Project: 1131.003.03</p> <p>Date: 9/19/03</p> <p>Photographed By: Hilary Janousek</p> <p>Description: Exposed sediment location 8.</p> <p>PHOTO #42</p>	 A photograph showing a more open area with sparse green vegetation and many bare, dry branches. A white marker with an orange band is visible in the center of the frame. The ground is covered with dry leaves and twigs. In the bottom right corner, there is a red date stamp that reads "SEP 19 2003".
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PHOTOGRAPH LOG

Project Name	12th Street Landfill, Kalamazoo River Superfund Site - Sample Locations
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Project: 1131.003.03 Date: 9/19/03 Photographed By: Hilary Janousek	
Description: Exposed sediment location 9.	
PHOTO #43	

Project: 1131.003.03 Date: 9/19/03 Photographed By: Hilary Janousek	
Description: Exposed sediment location 10.	
PHOTO #44	

PHOTOGRAPH LOG

Project Name	12th Street Landfill, Kalamazoo River Superfund Site - Sample Locations
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<p>Project: 1131.003.03</p> <p>Date: 9/19/03</p> <p>Photographed By: Hilary Janousek</p> <p>Description: Exposed sediment location 11.</p> <p>PHOTO #45</p>	
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<p>Project: 1131.003.03</p> <p>Date: 9/19/03</p> <p>Photographed By: Hilary Janousek</p> <p>Description: Exposed sediment location 12.</p> <p>PHOTO #46</p>	
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PHOTOGRAPH LOG

Project Name	12th Street Landfill, Kalamazoo River Superfund Site - Sample Locations
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<p>Project: 1131.003.03 Date: 9/19/03 Photographed By: Hilary Janousek</p> <p>Description: Exposed sediment location 13.</p> <p>PHOTO #47</p>	 <p>SEP 19 2003</p>
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<p>Project: 1131.003.03 Date: 9/19/03 Photographed By: Hilary Janousek</p> <p>Description: Exposed sediment location 14.</p> <p>PHOTO #48</p>	 <p>SEP 19 2003</p>
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PHOTOGRAPH LOG

Project Name	12th Street Landfill, Kalamazoo River Superfund Site - Sample Locations
<p>Project: 1131.003.03 Date: 9/19/03 Photographed By: Hilary Janousek</p> <p>Description: Exposed sediment location 15.</p> <p>PHOTO #49</p>	 <p>A photograph showing a patch of ground with exposed sediment. The area is covered with a mix of green grass and weeds, and some brown, leafy debris. A small orange marker is visible in the center of the frame. In the bottom right corner, there is a red date stamp that reads "SEP 19 2003".</p>
<p>Project: 1131.003.03 Date: 9/19/03 Photographed By: Hilary Janousek</p> <p>Description: Exposed sediment location 16.</p> <p>PHOTO #50</p>	 <p>A photograph showing a dense area of green vegetation, likely tall grass or weeds, growing over exposed sediment. A small orange marker is visible in the center of the frame. In the bottom right corner, there is a red date stamp that reads "SEP 19 2003".</p>



USEPA Contract Laboratory Program
Organic Traffic Report & Chain of Custody Record

Case No: 32161

DAS No:

R

Region: 5	Date Shipped: 9/30/2003	Chain of Custody Record	Sampler Signature: 	
Project Code: PR-R5-03-10207	Carrier Name: UPS		Relinquished By (Date / Time)	Received By (Date / Time)
Account Code: 68-S5-01-02 TO#3	Airbill: 1Z Y13 770 22 1000 302 6		 9/30/03 10:20	
CERCLIS ID: MID006007306	Shipped to: Ceimic Corporation 10 Dean Knauss Drive Narragansett RI 02882 (401) 782-8900			
Spill ID:			3	
Site Name/State: 12th Street Landfill Operable Unit #4/MI			4	
Project Leader: Zachery Clayton				
Action: Remedial Design				
Sampling Co: Environmental Design International inc.				

ORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No/ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME		INORGANIC SAMPLE No.	QC Type
E2CA2	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	5274537 (Not preserved) (1)	FP-02-1	S: 9/29/2003	14:20	--	
E2CA3	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	5274538 (Not preserved) (1)	FP-02-2	S: 9/29/2003	14:25	--	
E2CA4	Soil (>12")/ Zachery Clayton	M/G	PCBs (21)	5274539 (Not preserved) (1)	FP-02-3	S: 9/29/2003	14:30	--	
E2CA8	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	5274540 (Not preserved) (1)	FP-04-1	S: 9/29/2003	13:35	--	
E2CA9	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	5274541 (Not preserved) (1)	FP-04-2	S: 9/29/2003	13:35	--	
E2CB0	Soil (>12")/ Zachery Clayton	M/G	PCBs (21)	5274542 (Not preserved) (1)	FP-04-3	S: 9/29/2003	13:35	--	
E2CB4	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	5274543 (Not preserved) (1)	FP-06-1	S: 9/29/2003	14:50	--	
E2CB5	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	5274544 (Not preserved) (1)	FP-06-2	S: 9/29/2003	14:55	--	
E2CB6	Soil (>12")/ Zachery Clayton	M/G	PCBs (21)	5274545 (Not preserved) (1)	FP-06-3	S: 9/29/2003	15:00	--	
E2CB7	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	5274546 (Not preserved) (1)	FP-07-1	S: 9/29/2003	14:00	--	

Shipment for Case Complete? N	Sample(s) to be used for laboratory QC:	Additional Sampler Signature(s):	Chain of Custody Seal Number:
Analysis Key: PCBs = Polychlorinated biphenyls	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Shipment Iced? _____

TR Number: 5-252458383-093003-0001

PR provides preliminary results. Requests for preliminary results will increase analytical costs.

Send Copy to: Sample Management Office, 2000 Edmund Halley Dr., Reston, VA. 20191-3400 Phone 703/264-9348 Fax 703/264-9222

REGION COPY



USEPA Contract Laboratory Program
Organic Traffic Report & Chain of Custody Record

Case No: 32161

DAS No:

R

Region: 5	Date Shipped: 9/30/2003	Chain of Custody Record	Sampler Signature: <i>J. Clayton</i>	
Project Code: PR-R5-03-10207	Carrier Name: UPS		Relinquished By (Date / Time)	Received By (Date / Time)
Account Code: 68-S5-01-02 TO#3	Airbill: 1Z Y13 770 22 1000 302 6		1 <i>J. Clayton</i> 9/28/03 12:20	
CERCLIS ID: MID006007306	Shipped to: Ceimic Corporation 10 Dean Knauss Drive Narragansett RI 02882 (401) 782-8900		2	
Spill ID:			3	
Site Name/State: 12th Street Landfill Operable Unit #4/MI		4		
Project Leader: Zachery Clayton				
Action: Remedial Design				
Sampling Co: Environmental Design International inc.				

ORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No/ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME		INORGANIC SAMPLE No.	QC Type
E2CB8	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	5274547 (Not preserved) (1)	FP-07-2	S: 9/29/2003	14:00	--	
E2CB9	Soil (>12")/ Zachery Clayton	M/G	PCBs (21)	5274548 (Not preserved) (1)	FP-07-3	S: 9/29/2003	14:00	--	
E2CC3	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	5274549 (Not preserved) (1)	FP-09-1	S: 9/29/2003	10:45	--	
E2CC4	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	5274550 (Not preserved) (1)	FP-09-2	S: 9/29/2003	10:45	--	
E2CC5	Soil (>12")/ Zachery Clayton	M/G	PCBs (21)	5274551 (Not preserved) (1)	FP-09-3	S: 9/29/2003	10:45	--	
E2CC6	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	5274552 (Not preserved) (1)	FP-10-1	S: 9/29/2003	11:15	--	
E2CC7	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	5274553 (Not preserved) (1)	FP-10-2	S: 9/29/2003	11:15	--	
E2CC8	Soil (>12")/ Zachery Clayton	M/G	PCBs (21)	5274554 (Not preserved) (1)	FP-10-3	S: 9/29/2003	11:15	--	

Shipment for Case Complete? N	Sample(s) to be used for laboratory QC:	Additional Sampler Signature(s):	Chain of Custody Seal Number:
Analysis Key: PCBs = Polychlorinated biphenyls	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Shipment Iced? _____

TR Number: 5-252458383-093003-0001

PR provides preliminary results. Requests for preliminary results will increase analytical costs.

Send Copy to: Sample Management Office, 2000 Edmund Halley Dr., Reston, VA. 20191-3400 Phone 703/264-9348 Fax 703/264-9222

REGION COPY



USEPA Contract Laboratory Program
Organic Traffic Report & Chain of Custody Record

Case No: 32161

DAS No:

R

Region: 5 Project Code: PR-R5-03-10207 Account Code: 68-S5-01-02 TO#3 CERCLIS ID: MID006007306 Spill ID: Site Name/State: 12th Street Landfill Operable Unit #4/MI Project Leader: Zachery Clayton Action: Remedial Design Sampling Co: Environmental Design International inc.	Date Shipped: 9/30/2003 Carrier Name: UPS Airbill: 1Z Y13 770 22 1000 303 5 Shipped to: Ceimic Corporation 10 Dean Knauss Drive Narragansett RI 02882 (401) 782-8900	Chain of Custody Record <table border="1"><tr><td>Relinquished By</td><td>(Date / Time)</td><td>Received By</td><td>(Date / Time)</td></tr><tr><td>1 [Signature]</td><td>9/30/03 10:20</td><td>[Signature]</td><td></td></tr><tr><td>2</td><td></td><td></td><td></td></tr><tr><td>3</td><td></td><td></td><td></td></tr><tr><td>4</td><td></td><td></td><td></td></tr></table>	Relinquished By	(Date / Time)	Received By	(Date / Time)	1 [Signature]	9/30/03 10:20	[Signature]		2				3				4				Sampler Signature: [Signature]
Relinquished By	(Date / Time)	Received By	(Date / Time)																				
1 [Signature]	9/30/03 10:20	[Signature]																					
2																							
3																							
4																							

ORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No/ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME		INORGANIC SAMPLE No.	QC Type
E2CC9	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	5274555 (Not preserved) (1)	FP-11-1	S: 9/29/2003	13:25		--
E2CD0	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	5274556 (Not preserved) (1)	FP-11-2	S: 9/29/2003	13:25		--
E2CD1	Soil (>12")/ Zachery Clayton	M/G	PCBs (21)	5274557 (Not preserved) (1)	FP-11-3	S: 9/29/2003	13:25		--
E2CD2	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	5274558 (Not preserved) (1)	FP-12-1	S: 9/29/2003	13:20		--
E2CD3	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	5274559 (Not preserved) (1)	FP-12-2	S: 9/29/2003	13:20		--
E2CD4	Soil (>12")/ Zachery Clayton	M/G	PCBs (21)	5274560 (Not preserved) (1)	FP-12-3	S: 9/29/2003	13:20		--
E2CD8	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	5274561 (Not preserved) (1)	FP-14-1	S: 9/29/2003	13:40		--
E2CD9	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	5274562 (Not preserved) (1)	FP-14-2	S: 9/29/2003	13:40		--
E2CE0	Soil (>12")/ Zachery Clayton	M/G	PCBs (21)	5274563 (Not preserved) (1)	FP-14-3	S: 9/29/2003	13:40		--
E2CE1	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	5274564 (Not preserved) (1)	FP-15-1	S: 9/29/2003	14:35		--

Shipment for Case Complete? N	Sample(s) to be used for laboratory QC:	Additional Sampler Signature(s):	Chain of Custody Seal Number:
Analysis Key: PCBs = Polychlorinated biphenyls	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Shipment Iced? _____

TR Number: 5-252458383-093003-0002

PR provides preliminary results. Requests for preliminary results will increase analytical costs.

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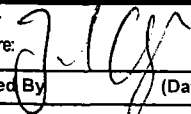
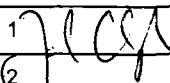


USEPA Contract Laboratory Program
Organic Traffic Report & Chain of Custody Record

Case No: 32161

DAS No:

R

Region: 5	Date Shipped: 9/30/2003	Chain of Custody Record	Sampler Signature: 
Project Code: PR-R5-03-10207	Carrier Name: UPS	Relinquished By (Date / Time)	Received By (Date / Time)
Account Code: 68-S5-01-02 TO#3	Airbill: 1Z Y13 770 22 1000 303 5	1  9/10/03 12:20	
CERCLIS ID: MID006007306	Shipped to: Ceimic Corporation 10 Dean Knauss Drive Narragansett RI 02882 (401) 782-8900	2	
Spill ID:		3	
Site Name/State: 12th Street Landfill Operable Unit #4/MI		4	
Project Leader: Zachery Clayton			
Action: Remedial Design			
Sampling Co: Environmental Design International inc.			

ORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No/ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME		INORGANIC SAMPLE No.	QC Type
E2CE2	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	5274565 (Not preserved) (1)	FP-15-2	S: 9/29/2003	14:40	--	
E2CE3	Soil (>12")/ Zachery Clayton	M/G	PCBs (21)	5274566 (Not preserved) (1)	FP-15-3	S: 9/29/2003	14:45	--	
E2CE4	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	5274567 (Not preserved) (1)	FP-16-1	S: 9/29/2003	11:00	--	
E2CE5	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	5274568 (Not preserved) (1)	FP-16-2	S: 9/29/2003	11:00	--	
E2CE6	Soil (>12")/ Zachery Clayton	M/G	PCBs (21)	5274569 (Not preserved) (1)	FP-16-3	S: 9/29/2003	11:00	--	
E2CE7	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	5274570 (Not preserved) (1)	FP-17-1	S: 9/29/2003	15:05	--	
E2CE8	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	5274571 (Not preserved) (1)	FP-17-2	S: 9/29/2003	15:10	--	
E2CE9	Soil (>12")/ Zachery Clayton	M/G	PCBs (21)	5274572 (Not preserved) (1)	FP-17-3	S: 9/29/2003	15:15	--	

Shipment for Case Complete? N	Sample(s) to be used for laboratory QC:	Additional Sampler Signature(s):	Chain of Custody Seal Number:
Analysis Key: PCBs = Polychlorinated biphenyls	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Shipment Iced? _____

TR Number: 5-252458383-093003-0002

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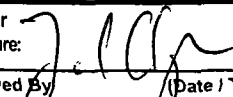
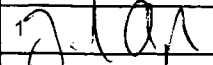
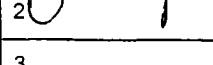


USEPA Contract Laboratory Program
Organic Traffic Report & Chain of Custody Record

Case No: 32161

DAS No:

R

Region: 5	Date Shipped: 9/30/2003	Chain of Custody Record	Sampler Signature: 	
Project Code: PR-R5-03-10207	Carrier Name: UPS		Relinquished By (Date / Time)	Received By (Date / Time)
Account Code: 68-S5-01-02 TO#3	Airbill: 1Z Y13 770 22 1000 304 4		1  9/30/03 10:20	
CERCLIS ID: MID006007306	Shipped to: Ceimic Corporation 10 Dean Knauss Drive Narragansett RI 02882 (401) 782-8900		2 	
Spill ID:			3	
Site Name/State: 12th Street Landfill Operable Unit #4/MI		4		
Project Leader: Zachery Clayton				
Action: Remedial Design				
Sampling Co: Environmental Design International inc.				

ORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No/ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME		INORGANIC SAMPLE No.	QC Type
E2CF6	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	5274573 (Not preserved) (1)	FP-20-1	S: 9/29/2003	11:50	--	
E2CF7	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	5274574 (Not preserved) (1)	FP-20-2	S: 9/29/2003	11:50	--	
E2CF8	Soil (>12")/ Zachery Clayton	M/G	PCBs (21)	5274575 (Not preserved) (1)	FP-20-3	S: 9/29/2003	11:50	--	
E2CF9	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	5274576 (Not preserved) (1)	FP-21-1	S: 9/29/2003	13:15	--	
E2CG0	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	5274577 (Not preserved) (1)	FP-21-2	S: 9/29/2003	13:15	--	
E2CG1	Soil (>12")/ Zachery Clayton	M/G	PCBs (21)	5274578 (Not preserved) (1)	FP-21-3	S: 9/29/2003	13:15	--	
E2CG2	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	5274579 (Not preserved) (1)	FP-22-1	S: 9/29/2003	11:30	--	
E2CG3	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	5274580 (Not preserved) (1)	FP-22-2	S: 9/29/2003	11:30	--	
E2CG4	Soil (>12")/ Zachery Clayton	M/G	PCBs (21)	5274581 (Not preserved) (1)	FP-22-3	S: 9/29/2003	11:30	--	
E2CG8	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	5274582 (Not preserved) (1)	FP-24-1	S: 9/29/2003	11:35	--	

Shipment for Case Complete? N	Sample(s) to be used for laboratory QC:	Additional Sampler Signature(s):	Chain of Custody Seal Number:
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TR Number: 5-252458383-093003-0003

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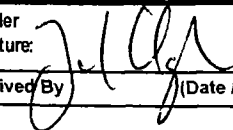


USEPA Contract Laboratory Program
Organic Traffic Report & Chain of Custody Record

Case No: 32161

DAS No:

R

Region: 5	Date Shipped: 9/30/2003	Chain of Custody Record	Sampler Signature: 
Project Code: PR-R5-03-10207	Carrier Name: UPS	Relinquished By (Date / Time)	Received By (Date / Time)
Account Code: 68-S5-01-02 TO#3	Airbill: 1Z Y13 770 22 1000 304 4	 9/20/03 13:20	
CERCLIS ID: MID006007306	Shipped to: Ceimic Corporation 10 Dean Knauss Drive Narragansett RI 02882 (401) 782-8900	2	
Spill ID:		3	
Site Name/State: 12th Street Landfill Operable Unit #4/MI		4	
Project Leader: Zachery Clayton			
Action: Remedial Design			
Sampling Co: Environmental Design International inc.			

ORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No/ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME		INORGANIC SAMPLE No.	QC Type
E2CG9	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	5274583 (Not preserved) (1)	FP-24-2	S: 9/29/2003	11:35	--	
E2CH0	Soil (>12")/ Zachery Clayton	M/G	PCBs (21)	5274584 (Not preserved) (1)	FP-24-3	S: 9/29/2003	11:35	--	
E2CH1	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	5274585 (Not preserved) (1)	FP-25-1	S: 9/29/2003	13:45	--	
E2CH2	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	5274586 (Not preserved) (1)	FP-25-2	S: 9/29/2003	13:45	--	
E2CH3	Soil (>12")/ Zachery Clayton	M/G	PCBs (21)	5274587 (Not preserved) (1)	FP-25-3	S: 9/29/2003	13:45	--	
E2CH4	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	5274588 (Not preserved) (1)	FP-26-1	S: 9/29/2003	13:55	--	
E2CH5	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	5274589 (Not preserved) (1)	FP-26-2	S: 9/29/2003	13:55	--	
E2CH6	Soil (>12")/ Zachery Clayton	M/G	PCBs (21)	5274590 (Not preserved) (1)	FP-26-3	S: 9/29/2003	13:55	--	

Shipment for Case Complete? N	Sample(s) to be used for laboratory QC:	Additional Sampler Signature(s):	Chain of Custody Seal Number:
Analysis Key: PCBs = Polychlorinated biphenyls	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Shipment Iced? _____

TR Number: 5-252458383-093003-0003

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Organic Traffic Report & Chain of Custody Record

Case No: 32161

DAS No:

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Region: 5	Date Shipped: 9/30/2003	Chain of Custody Record	Sampler Signature: <i>[Signature]</i>
Project Code: PR-R5-03-10207	Carrier Name: UPS	Relinquished By <i>[Signature]</i> (Date / Time) 9/30/03 10:20	Received By <i>[Signature]</i> (Date / Time)
Account Code: 68-S5-01-02 TO#3	Airbill: 1Z Y13 770 22 1000 305 3	2	
CERCLIS ID: MID006007306	Shipped to: Ceimic Corporation 10 Dean Knauss Drive Narragansett RI 02882 (401) 782-8900	3	
Spill ID:		4	
Site Name/State: 12th Street Landfill Operable Unit #4/MI			
Project Leader: Zachery Clayton			
Action: Remedial Design			
Sampling Co: Environmental Design International inc.			

ORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No/ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME		INORGANIC SAMPLE No.	QC Type
E2CH7	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	5274591 (Not preserved) (1)	FP-27-1	S: 9/29/2003	11:40		--
E2CH8	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	5274592 (Not preserved) (1)	FP-27-2	S: 9/29/2003	11:40		--
E2CH9	Soil (>12")/ Zachery Clayton	M/G	PCBs (21)	5274593 (Not preserved) (1)	FP-27-3	S: 9/29/2003	11:40		--
E2CJ0	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	5274594 (Not preserved) (1)	FP-28-1	S: 9/29/2003	9:45		--
E2CJ1	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	5274595 (Not preserved) (1)	FP-28-2	S: 9/29/2003	9:45		--
E2CJ2	Soil (>12")/ Zachery Clayton	M/G	PCBs (21)	5274596 (Not preserved) (1)	FP-28-3	S: 9/29/2003	9:45		--
E2CJ3	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	5274597 (Not preserved) (1)	FP-29-1	S: 9/29/2003	13:10		--
E2CJ4	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	5274598 (Not preserved) (1)	FP-29-2	S: 9/29/2003	13:10		--
E2CJ5	Soil (>12")/ Zachery Clayton	M/G	PCBs (21)	5274599 (Not preserved) (1)	FP-29-3	S: 9/29/2003	13:10		--
E2CJ9	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	5274600 (Not preserved) (1)	FP-31-1	S: 9/29/2003	11:20		--

Shipment for Case Complete? Y	Sample(s) to be used for laboratory QC: E2CL1, E2CL2, E2CL3, E2CL4, E2CL5, E2CL6	Additional Sampler Signature(s):	Chain of Custody Seal Number:
Analysis Key: PCBs = Polychlorinated biphenyls	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Shipment Iced? _____

TR Number: 5-252458383-093003-0004

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Organic Traffic Report & Chain of Custody Record

Case No: 32161

DAS No:

R

Region: 5	Date Shipped: 9/30/2003	Chain of Custody Record	Sampler Signature: <i>[Signature]</i>
Project Code: PR-R5-03-10207	Carrier Name: UPS	Relinquished By <i>[Signature]</i> (Date / Time) 9/30/03 12:10	Received By <i>[Signature]</i> (Date / Time)
Account Code: 68-S5-01-02 TO#3	Airbill: 1Z Y13 770 22 1000 305 3	3	
CERCLIS ID: MID006007306	Shipped to: Ceimic Corporation 10 Dean Knauss Drive Narragansett RI 02882 (401) 782-8900	4	
Spill ID:			
Site Name/State: 12th Street Landfill Operable Unit #4/MI			
Project Leader: Zachery Clayton			
Action: Remedial Design			
Sampling Co: Environmental Design International inc.			

ORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No/ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME		INORGANIC SAMPLE No.	QC Type
E2CK0	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	5274601 (Not preserved) (1)	FP-31-2	S: 9/29/2003	11:20		--
E2CK1	Soil (>12")/ Zachery Clayton	M/G	PCBs (21)	5274602 (Not preserved) (1)	FP-31-3	S: 9/29/2003	11:20		--
E2CK5	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	5274603 (Not preserved) (1)	FP-33-1	S: 9/29/2003	11:56		--
E2CK6	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	5274604 (Not preserved) (1)	FP-33-2	S: 9/29/2003	11:56		--
E2CK7	Soil (>12")/ Zachery Clayton	M/G	PCBs (21)	5274605 (Not preserved) (1)	FP-33-3	S: 9/29/2003	11:56		--
E2CL1	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	5274606 (Not preserved) (1)	FP-35-1	S: 9/29/2003	14:50		Field Duplicate
E2CL2	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	5274607 (Not preserved) (1)	FP-35-2	S: 9/29/2003	14:55		Field Duplicate
E2CL3	Soil (>12")/ Zachery Clayton	M/G	PCBs (21)	5274608 (Not preserved) (1)	FP-35-3	S: 9/29/2003	15:00		Field Duplicate
E2CL4	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	5274609 (Not preserved) (1)	FP-36-1	S: 9/29/2003	14:00		Field Duplicate
E2CL5	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	5274610 (Not preserved) (1)	FP-36-2	S: 9/29/2003	14:00		Field Duplicate

Shipment for Case Complete? Y	Sample(s) to be used for laboratory QC: E2CL1, E2CL2, E2CL3, E2CL4, E2CL5, E2CL6	Additional Sampler Signature(s):	Chain of Custody Seal Number:
Analysis Key: PCBs = Polychlorinated biphenyls	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Shipment Iced? _____

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Case No: 32161

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Region: 5	Date Shipped: 9/30/2003	Chain of Custody Record	Sampler Signature: <i>[Signature]</i>	
Project Code: PR-R5-03-10207	Carrier Name: UPS		Relinquished By (Date / Time)	Received By (Date / Time)
Account Code: 68-S5-01-02 TO#3	Airbill: 1Z Y13 770 22 1000 305 3		1 <i>[Signature]</i> 9/30/03 15:00	
CERCLIS ID: MID006007306	Shipped to: Ceimic Corporation 10 Dean Knauss Drive Narragansett RI 02882 (401) 782-8900		2 <i>[Signature]</i>	
Spill ID:			3	
Site Name/State: 12th Street Landfill Operable Unit #4/MI		4		
Project Leader: Zachery Clayton				
Action: Remedial Design				
Sampling Co: Environmental Design International inc.				

ORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No/ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME	INORGANIC SAMPLE No.	QC Type
E2CL6	Soil (>12")/ Zachery Clayton	M/G	PCBs (21)	5274611 (Not preserved) (1)	FP-36-3	S: 9/29/2003 14:00		Field Duplicate

Shipment for Case Complete? Y	Sample(s) to be used for laboratory QC: E2CL1, E2CL2, E2CL3, E2CL4, E2CL5, E2CL6	Additional Sampler Signature(s):	Chain of Custody Seal Number:
Analysis Key: PCBs = Polychlorinated biphenyls	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Shipment Iced? _____

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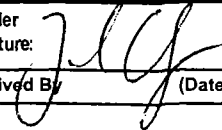
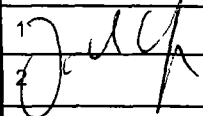


USEPA Contract Laboratory Program
Organic Traffic Report & Chain of Custody Record

Case No: 32161

DAS No:

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Region: 5	Date Shipped: 9/17/2003	Chain of Custody Record	Sampler Signature: 	
Project Code: PR-R5-03-10207	Carrier Name: UPS		Relinquished By (Date / Time)	Received By (Date / Time)
Account Code: 68-S5-01-02 TO#3	Airbill: 1ZY137702210002983		1  9/17/03 11:25	
CERCLIS ID: MID006007306	Shipped to: Ceimic Corporation 10 Dean Knauss Drive Narragansett RI 02882 (401) 782-8900		2	
Spill ID:			3	
Site Name/State: 12th Street Landfill Operable Unit #4/MI		4		
Project Leader: Zachery Clayton				
Action: Remedial Design				
Sampling Co: Environmental Design International inc.				

ORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No/ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME	INORGANIC SAMPLE No.	QC Type
E2C99	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	546887 (Not preserved) (1)	FP-01-1	6: 9/16/2003 & 9/17/03		--
E2CA0	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	546888 (Not preserved) (1)	FP-01-2			--
E2CA1	Soil (>12")/ Zachery Clayton	M/G	PCBs (21)	546889 (Not preserved) (1)	FP-01-3			--
E2CR0	Soil/Sediment/ Zachery Clayton	M/G	PCBs (21)	546809 (Not preserved) (1)	EXP-04-1			--
E2CR1	Soil/Sediment/ Zachery Clayton	M/G	PCBs (21)	546810 (Not preserved) (1)	EXP-04-2			--
E2CR2	Soil/Sediment/ Zachery Clayton	M/G	PCBs (21)	546811 (Not preserved) (1)	EXP-04-3			--
E2CR6	Soil/Sediment/ Zachery Clayton	M/G	PCBs (21)	546815 (Not preserved) (1)	EXP-06-1			--
E2CR7	Soil/Sediment/ Zachery Clayton	M/G	PCBs (21)	546816 (Not preserved) (1)	EXP-06-2			--
E2CR8	Soil/Sediment/ Zachery Clayton	M/G	PCBs (21)	546817 (Not preserved) (1)	EXP-06-3			--
E2CS2	Soil/Sediment/ Zachery Clayton	M/G	PCBs (21)	546821 (Not preserved) (1)	EXP-08-1			--

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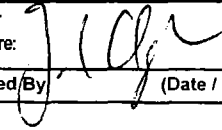
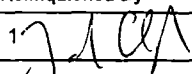


USEPA Contract Laboratory Program
Organic Traffic Report & Chain of Custody Record

Case No: 32161

DAS No:

R

Region: 5	Date Shipped: 9/17/2003	Chain of Custody Record	Sampler Signature: 
Project Code: PR-R5-03-10207	Carrier Name: UPS		
Account Code: 68-S5-01-02 TO#3	Airbill: 1ZY137702210002983	Relinquished By (Date / Time)	Received By (Date / Time)
CERCLIS ID: MID006007306	Shipped to: Ceimic Corporation 10 Dean Knauss Drive Narragansett RI 02882 (401) 782-8900	1  9/17/03 1425	
Spill ID:		2	
Site Name/State: 12th Street Landfill Operable Unit #4/MI		3	
Project Leader: Zachery Clayton		4	
Action: Remedial Design			
Sampling Co: Environmental Design International inc.			

ORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No/ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME	INORGANIC SAMPLE No.	QC Type
E2CS3	Soil/Sediment/ Zachery Clayton	M/G	PCBs (21)	546822 (Not preserved) (1)	EXP-08-2	9/17/03		--
E2CS4	Soil/Sediment/ Zachery Clayton	M/G	PCBs (21)	546823 (Not preserved) (1)	EXP-08-3			--
E2CS5	Soil/Sediment/ Zachery Clayton	M/G	PCBs (21)	546824 (Not preserved) (1)	EXP-09-1			--
E2CS6	Soil/Sediment/ Zachery Clayton	M/G	PCBs (21)	546825 (Not preserved) (1)	EXP-09-2			--
E2CS7	Soil/Sediment/ Zachery Clayton	M/G	PCBs (21)	546826 (Not preserved) (1)	EXP-09-3			--
E2CT1	Soil/Sediment/ Zachery Clayton	M/G	PCBs (21)	546830 (Not preserved) (1)	EXP-11-1			--
E2CT2	Soil/Sediment/ Zachery Clayton	M/G	PCBs (21)	546831 (Not preserved) (1)	EXP-11-2			--
E2CT3	Soil/Sediment/ Zachery Clayton	M/G	PCBs (21)	546832 (Not preserved) (1)	EXP-11-3			--
E2CT4	Soil/Sediment/ Zachery Clayton	M/G	PCBs (21)	546833 (Not preserved) (1)	EXP-12-1			--
E2CT5	Soil/Sediment/ Zachery Clayton	M/G	PCBs (21)	546834 (Not preserved) (1)	EXP-12-2			--

Shipment for Case Complete? N	Sample(s) to be used for laboratory QC:	Additional Sampler Signature(s):	Chain of Custody Seal Number:
Analysis Key: PCBs = Polychlorinated biphenyls	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Shipment Iced? _____

TR Number: 5-252458383-091703-0003

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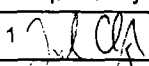
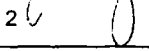


USEPA Contract Laboratory Program
Organic Traffic Report & Chain of Custody Record

Case No: 32161

DAS No:

R

Region: 5	Date Shipped: 9/17/2003	Chain of Custody Record	Sampler Signature: 
Project Code: PR-R5-03-10207	Carrier Name: UPS		Relinquished By (Date / Time)
Account Code: 68-S5-01-02 TO#3	Airbill: 1ZY137702210002983	1  9/17/03 1425	
CERCLIS ID: MID006007306	Shipped to: Ceimic Corporation 10 Dean Knauss Drive Narragansett RI 02882 (401) 782-8900	2 	
Spill ID:		3	
Site Name/State: 12th Street Landfill Operable Unit #4/MI		4	
Project Leader: Zachery Clayton			
Action: Remedial Design			
Sampling Co: Environmental Design International inc.			

ORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No/ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME	INORGANIC SAMPLE No.	QC Type
E2CT6	Soil/Sediment/ Zachery Clayton	M/G	PCBs (21)	546835 (Not preserved) (1)	EXP-12-3	9/17/03		--
E2CT7	Soil/Sediment/ Zachery Clayton	M/G	PCBs (21)	546836 (Not preserved) (1)	EXP-13-1			--
E2CT8	Soil/Sediment/ Zachery Clayton	M/G	PCBs (21)	546837 (Not preserved) (1)	EXP-13-2			--
E2CT9	Soil/Sediment/ Zachery Clayton	M/G	PCBs (21)	546838 (Not preserved) (1)	EXP-13-3			--

Shipment for Case Complete? N	Sample(s) to be used for laboratory QC:	Additional Sampler Signature(s):	Chain of Custody Seal Number:
Analysis Key: PCBs = Polychlorinated biphenyls	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Shipment Iced? _____

TR Number: 5-252458383-091703-0003

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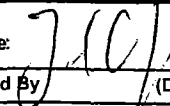
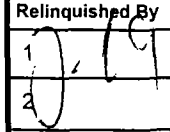


USEPA Contract Laboratory Program
Organic Traffic Report & Chain of Custody Record

Case No: 32161

DAS No:

R

Region: 5	Date Shipped: 9/17/2003	Chain of Custody Record	Sampler Signature: 
Project Code: PR-R5-03-10207	Carrier Name: UPS		
Account Code: 68-S5-01-02 TO#3	Airbill: 1ZY137702210002974	Relinquished By (Date / Time)	Received By (Date / Time)
CERCLIS ID: MID006007306	Shipped to: Ceimic Corporation 10 Dean Knauss Drive Narragansett RI 02882 (401) 782-8900	1  9/17/03 14:25	
Spill ID:		2	
Site Name/State: 12th Street Landfill Operable Unit #4/MI		3	
Project Leader: Zachery Clayton		4	
Action: Remedial Design			
Sampling Co: Environmental Design International inc.			

ORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No/ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME	INORGANIC SAMPLE No.	QC Type
E2CQ1	Soil/Sediment/ Zachery Clayton	M/G	PCBs (21)	5046800 (Not preserved) (1)	EXP-01-1	9/17/03		--
E2CQ2	Soil/Sediment/ Zachery Clayton	M/G	PCBs (21)	546801 (Not preserved) (1)	EXP-01-2			--
E2CQ3	Soil/Sediment/ Zachery Clayton	M/G	PCBs (21)	546802 (Not preserved) (1)	EXP-01-3			--
E2CQ4	Soil/Sediment/ Zachery Clayton	M/G	PCBs (21)	546803 (Not preserved) (1)	EXP-02-1			--
E2CQ5	Soil/Sediment/ Zachery Clayton	M/G	PCBs (21)	546804 (Not preserved) (1)	EXP-02-2			--
E2CQ6	Soil/Sediment/ Zachery Clayton	M/G	PCBs (21)	546805 (Not preserved) (1)	EXP-02-3			--
E2CQ7	Soil/Sediment/ Zachery Clayton	M/G	PCBs (21)	546806 (Not preserved) (1)	EXP-03-1			--
E2CQ8	Soil/Sediment/ Zachery Clayton	M/G	PCBs (21)	546807 (Not preserved) (1)	EXP-03-2			--
E2CQ9	Soil/Sediment/ Zachery Clayton	M/G	PCBs (21)	546808 (Not preserved) (1)	EXP-03-3			--
E2CR3	Soil/Sediment/ Zachery Clayton	M/G	PCBs (21)	546812 (Not preserved) (1)	EXP-05-1			--

Shipment for Case Complete? N	Sample(s) to be used for laboratory QC:	Additional Sampler Signature(s):	Chain of Custody Seal Number:
Analysis Key: PCBs = Polychlorinated biphenyls	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Shipment Iced? _____

TR Number: 5-252458383-091703-0002

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Organic Traffic Report & Chain of Custody Record

Case No: 32161

DAS No:

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Region: 5	Date Shipped: 9/17/2003	Chain of Custody Record	Sampler Signature: <i>[Signature]</i>	
Project Code: PR-R5-03-10207	Carrier Name: UPS		Relinquished By (Date / Time)	Received By (Date / Time)
Account Code: 68-S5-01-02 TO#3	Airbill: 1ZY137702210002974		1 <i>[Signature]</i> 9/17/03 14:25	
CERCLIS ID: MID006007306	Shipped to: Ceimic Corporation 10 Dean Knauss Drive Narragansett RI 02882 (401) 782-8900		2 <i>[Signature]</i>	
Spill ID:			3	
Site Name/State: 12th Street Landfill Operable Unit #4/MI		4		
Project Leader: Zachery Clayton				
Action: Remedial Design				
Sampling Co: Environmental Design International inc.				

ORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No/ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME	INORGANIC SAMPLE No.	QC Type
E2CR4	Soil/Sediment/ Zachery Clayton	M/G	PCBs (21)	546813 (Not preserved) (1)	EXP-05-2	9/17/03		--
E2CR5	Soil/Sediment/ Zachery Clayton	M/G	PCBs (21)	546814 (Not preserved) (1)	EXP-05-3			--
E2CS8	Soil/Sediment/ Zachery Clayton	M/G	PCBs (21)	546827 (Not preserved) (1)	EXP-10-1			--
E2CS9	Soil/Sediment/ Zachery Clayton	M/G	PCBs (21)	546828 (Not preserved) (1)	EXP-10-2			--
E2CT0	Soil/Sediment/ Zachery Clayton	M/G	PCBs (21)	546829 (Not preserved) (1)	EXP-10-3			--
E2CW9	Soil/Sediment/ Zachery Clayton	M/G	PCBs (21)	546848 (Not preserved) (1)	EXP-17-1			Field Duplicate
E2CX0	Soil/Sediment/ Zachery Clayton	M/G	PCBs (21)	546849 (Not preserved) (1)	EXP-17-2			Field Duplicate
E2CX1	Soil/Sediment/ Zachery Clayton	M/G	PCBs (21)	546850 (Not preserved) (1)	EXP-17-3			Field Duplicate

Shipment for Case Complete? N	Sample(s) to be used for laboratory QC:	Additional Sampler Signature(s):	Chain of Custody Seal Number:
Analysis Key:	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Shipment Iced? _____
PCBs = Polychlorinated biphenyls			

TR Number: 5-252458383-091703-0002

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Organic Traffic Report & Chain of Custody Record

Case No: 32161

DAS No:

R

Region: 5	Date Shipped: 9/17/2003	Chain of Custody Record	Sampler Signature: <i>J. Clayton</i>	
Project Code: PR-R5-03-10207	Carrier Name: UPS		Relinquished By (Date / Time)	Received By (Date / Time)
Account Code: 68-S5-01-02 TO#3	Airbill: 1ZY137702210002965		1 <i>J. Clayton</i> 9/17/03 14:15	
CERCLIS ID: MID006007306	Shipped to: Ceimic Corporation 10 Dean Knauss Drive Narragansett RI 02882 (401) 782-8900		2	
Spill ID:			3	
Site Name/State: 12th Street Landfill Operable Unit #4/MI		4		
Project Leader: Zachery Clayton				
Action: Remedial Design				
Sampling Co: Environmental Design International inc.				

ORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No/ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME	INORGANIC SAMPLE No.	QC Type
E2CL7	Sediment/ Zachery Clayton	M/G	PCBs (21)	546750 (Not preserved) (1)	SD-01-1	9/17/03		--
E2CM5	Sediment/ Zachery Clayton	M/G	PCBs (21)	546758 (Not preserved) (1)	SD-05-1			--
E2CM6	Sediment/ Zachery Clayton	M/G	PCBs (21)	546759 (Not preserved) (1)	SD-05-2			--
E2CM7	Sediment/ Zachery Clayton	M/G	PCBs (21)	546760 (Not preserved) (1)	SD-06-1			--
E2CM8	Sediment/ Zachery Clayton	M/G	PCBs (21)	546761 (Not preserved) (1)	SD-06-2			--
E2CM9	Sediment/ Zachery Clayton	M/G	PCBs (21)	546762 (Not preserved) (1)	SD-07-1			--
E2CN0	Sediment/ Zachery Clayton	M/G	PCBs (21)	546763 (Not preserved) (1)	SD-07-2			--
E2CN1	Sediment/ Zachery Clayton	M/G	PCBs (21)	546764 (Not preserved) (1)	SD-08-1			--
E2CN2	Sediment/ Zachery Clayton	M/G	PCBs (21)	546765 (Not preserved) (1)	SD-08-2			--
E2CN3	Sediment/ Zachery Clayton	M/G	PCBs (21)	546766 (Not preserved) (1)	SD-09-1			--

Shipment for Case Complete? N	Sample(s) to be used for laboratory QC:	Additional Sampler Signature(s):	Chain of Custody Seal Number:
Analysis Key: PCBs = Polychlorinated biphenyls	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Shipment Iced? _____

TR Number: 5-252458383-091703-0001

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Organic Traffic Report & Chain of Custody Record

Case No: 32161

DAS No:

R

Region: 5	Date Shipped: 9/17/2003	Chain of Custody Record	Sampler Signature: <i>J. Clayton</i>
Project Code: PR-R5-03-10207	Carrier Name: UPS	Relinquished By (Date / Time)	Received By (Date / Time)
Account Code: 68-S5-01-02 TO#3	Airbill: 1ZY137702210002965	1 <i>J. Clayton</i> 9/17/03 14:25	
CERCLIS ID: MID006007306	Shipped to: Ceimic Corporation 10 Dean Knauss Drive Narragansett RI 02882 (401) 782-8900	2	
Spill ID:		3	
Site Name/State: 12th Street Landfill Operable Unit #4/MI		4	
Project Leader: Zachery Clayton			
Action: Remedial Design			
Sampling Co: Environmental Design International inc.			

ORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No/ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME	INORGANIC SAMPLE No.	QC Type
E2CN4	Sediment/ Zachery Clayton	M/G	PCBs (21)	546767 (Not preserved) (1)	SD-09-2	9/17/03		--
E2CN5	Sediment/ Zachery Clayton	M/G	PCBs (21)	546768 (Not preserved) (1)	SD-10-1			--
E2CN9	Sediment/ Zachery Clayton	M/G	PCBs (21)	546772 (Not preserved) (1)	SD-12-1			--
E2CP0	Sediment/ Zachery Clayton	M/G	PCBs (21)	546773 (Not preserved) (1)	SD-12-2			--
E2CP1	Sediment/ Zachery Clayton	M/G	PCBs (21)	546774 (Not preserved) (1)	SD-13-1			--
E2CP2	Sediment/ Zachery Clayton	M/G	PCBs (21)	546775 (Not preserved) (1)	SD-13-2			--
E2CP3	Sediment/ Zachery Clayton	M/G	PCBs (21)	546776 (Not preserved) (1)	SD-14-1			--
E2CP4	Sediment/ Zachery Clayton	M/G	PCBs (21)	546777 (Not preserved) (1)	SD-14-2			--
E2CP5	Sediment/ Zachery Clayton	M/G	PCBs (21)	546778 (Not preserved) (1)	SD-15-1			--
E2CP6	Sediment/ Zachery Clayton	M/G	PCBs (21)	546779 (Not preserved) (1)	SD-15-2			--

Shipment for Case Complete? N	Sample(s) to be used for laboratory QC:	Additional Sampler Signature(s):	Chain of Custody Seal Number:
Analysis Key: PCBs = Polychlorinated biphenyls	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Shipment Iced? _____

TR Number: 5-252458383-091703-0001

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USEPA Contract Laboratory Program
Organic Traffic Report & Chain of Custody Record

Case No: 32161

DAS No:

R

Region: 5	Date Shipped: 9/17/2003	Chain of Custody Record	Sampler Signature: <i>J. Clayton</i>
Project Code: PR-R5-03-10207	Carrier Name: UPS	Relinquished By (Date / Time)	Received By (Date / Time)
Account Code: 68-S5-01-02 TO#3	Airbill: 1ZY137702210002965	1 <i>J. Clayton</i> 9/17/03 14:23	
CERCLIS ID: MID006007306	Shipped to: Ceimic Corporation 10 Dean Knauss Drive Narragansett RI 02882 (401) 782-8900	2	
Spill ID:		3	
Site Name/State: 12th Street Landfill Operable Unit #4/MI		4	
Project Leader: Zachery Clayton			
Action: Remedial Design			
Sampling Co: Environmental Design International inc.			

ORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No/ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME	INORGANIC SAMPLE No.	QC Type
E2CP7	Sediment/ Zachery Clayton	M/G	PCBs (21)	546780 (Not preserved) (1)	SD-16-1	9/17/03		--
E2CP8	Sediment/ Zachery Clayton	M/G	PCBs (21)	546781 (Not preserved) (1)	SD-16-2			--
E2CP9	Sediment/ Zachery Clayton	M/G	PCBs (21)	546782 (Not preserved) (1)	SD-17-1			Field Duplicate
E2CQ0	Sediment/ Zachery Clayton	M/G	PCBs (21)	546783 (Not preserved) (1)	SD-17-2			Field Duplicate
E2CR9	Soil/Sediment/ Zachery Clayton	M/G	PCBs (21)	546818 (Not preserved) (1)	EXP-07-1			--
E2CS0	Soil/Sediment/ Zachery Clayton	M/G	PCBs (21)	546819 (Not preserved) (1)	EXP-07-2			--
E2CS1	Soil/Sediment/ Zachery Clayton	M/G	PCBs (21)	546820 (Not preserved) (1)	EXP-07-3			--
E2CW0	Soil/Sediment/ Zachery Clayton	M/G	PCBs (21)	546839 (Not preserved) (1)	EXP-14-1			--
E2CW1	Soil/Sediment/ Zachery Clayton	M/G	PCBs (21)	546840 (Not preserved) (1)	EXP-14-2			--
E2CW2	Soil/Sediment/ Zachery Clayton	M/G	PCBs (21)	546841 (Not preserved) (1)	EXP-14-3			--

Shipment for Case Complete? N	Sample(s) to be used for laboratory QC:	Additional Sampler Signature(s):	Chain of Custody Seal Number:
Analysis Key: PCBs = Polychlorinated biphenyls	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Shipment Iced? _____

TR Number: 5-252458383-091703-0001

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Case No: 32161

DAS No:

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Region: 5	Date Shipped: 9/17/2003	Chain of Custody Record	Sampler Signature: <i>J. Clayton</i>
Project Code: PR-R5-03-10207	Carrier Name: UPS		Relinquished By (Date / Time)
Account Code: 68-S5-01-02 TO#3	Airbill: 1ZY137702210002965	1 <i>J. Clayton</i> 9/17/03 14:25	
CERCLIS ID: MID006007306	Shipped to: Ceimic Corporation 10 Dean Knauss Drive Narragansett RI 02882 (401) 782-8900	2	
Spill ID:		3	
Site Name/State: 12th Street Landfill Operable Unit #4/MI		4	
Project Leader: Zachery Clayton			
Action: Remedial Design			
Sampling Co: Environmental Design International inc.			

ORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No/ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME	INORGANIC SAMPLE No.	QC Type
E2CW3	Soil/Sediment/ Zachery Clayton	M/G	PCBs (21)	546842 (Not preserved) (1)	EXP-15-1	9/17/03		--
E2CW4	Soil/Sediment/ Zachery Clayton	M/G	PCBs (21)	546843 (Not preserved) (1)	EXP-15-2			--
E2CW5	Soil/Sediment/ Zachery Clayton	M/G	PCBs (21)	546844 (Not preserved) (1)	EXP-15-3			--
E2CW6	Soil/Sediment/ Zachery Clayton	M/G	PCBs (21)	546845 (Not preserved) (1)	EXP-16-1			--
E2CW7	Soil/Sediment/ Zachery Clayton	M/G	PCBs (21)	546846 (Not preserved) (1)	EXP-16-2			--
E2CW8	Soil/Sediment/ Zachery Clayton	M/G	PCBs (21)	546847 (Not preserved) (1)	EXP-16-3			--

Shipment for Case Complete? N	Sample(s) to be used for laboratory QC:	Additional Sampler Signature(s):	Chain of Custody Seal Number:
Analysis Key: PCBs = Polychlorinated biphenyls	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Shipment Iced? _____

TR Number: 5-252458383-091703-0001

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Case No: 32161

DAS No:

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Region: 5	Date Shipped: 9/16/2003	Chain of Custody Record <table border="1"><tr><td>Relinquished By</td><td>(Date / Time)</td><td>Received By</td><td>(Date / Time)</td></tr><tr><td>1 <i>[Signature]</i></td><td>9/16/03 17:00</td><td>2 <i>[Signature]</i></td><td></td></tr><tr><td>2</td><td></td><td></td><td></td></tr><tr><td>3</td><td></td><td></td><td></td></tr><tr><td>4</td><td></td><td></td><td></td></tr></table>	Relinquished By	(Date / Time)	Received By	(Date / Time)	1 <i>[Signature]</i>	9/16/03 17:00	2 <i>[Signature]</i>		2				3				4			
Relinquished By	(Date / Time)		Received By	(Date / Time)																		
1 <i>[Signature]</i>	9/16/03 17:00		2 <i>[Signature]</i>																			
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3																						
4																						
Project Code: PR-R5-03-10207	Carrier Name: UPS																					
Account Code: 66-S5-01-02 TO#3	Airbill: 1ZY137702210003062																					
CERCLIS ID: MID006007306	Shipped to: Ceimic Corporation 10 Dean Knauss Drive Narragansett RI 02882 (401) 782-8900																					
Spill ID:																						
Site Name/State: 12th Street Landfill Operable Unit #4/MI																						
Project Leader: Zachery Clayton																						
Action: Remedial Design																						
Sampling Co: Environmental Design International inc.																						

ORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No/ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME	INORGANIC SAMPLE No.	QC Type
E2CA5	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	546893 (Not preserved) (1)	FP-03-1	9/16/03		--
E2CA6	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	546894 (Not preserved) (1)	FP-03-2			--
E2CA7	Soil (>12")/ Zachery Clayton	M/G	PCBs (21)	546895 (Not preserved) (1)	FP-03-3			--
E2CB1	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	546899 (Not preserved) (1)	FP-05-1			--
E2CB2	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	546900 (Not preserved) (1)	FP-05-2			--
E2CB3	Soil (>12")/ Zachery Clayton	M/G	PCBs (21)	546901 (Not preserved) (1)	FP-05-3			--
E2CC0	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	546908 (Not preserved) (1)	FP-08-1			--
E2CC1	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	546909 (Not preserved) (1)	FP-08-2			--
E2CC2	Soil (>12")/ Zachery Clayton	M/G	PCBs (21)	546910 (Not preserved) (1)	FP-08-3			--
E2CD5	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	546923 (Not preserved) (1)	FP-13-1			--

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TR Number: 5-252458383-091603-0001

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USEPA Contract Laboratory Program
Organic Traffic Report & Chain of Custody Record

Case No: 32161

DAS No:

R

Region: 5	Date Shipped: 9/16/2003	Chain of Custody Record	Sampler Signature: <i>[Signature]</i>	
Project Code: PR-R5-03-10207	Carrier Name: UPS		Relinquished By (Date / Time)	Received By (Date / Time)
Account Code: 68-S5-01-02 TO#3	Airbill: 1ZY137702210003062		1 <i>[Signature]</i> 9/16/03 11:50	
CERCLIS ID: MID006007306	Shipped to: Ceimic Corporation 10 Dean Knauss Drive Narragansett RI 02882 (401) 782-8900		2	
Spill ID:			3	
Site Name/State: 12th Street Landfill Operable Unit #4/MI		4		
Project Leader: Zachery Clayton				
Action: Remedial Design				
Sampling Co: Environmental Design International inc.				

ORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No/ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME	INORGANIC SAMPLE No.	QC Type
E2CD6	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	546924 (Not preserved) (1)	FP-13-2	9/16/03		--
E2CD7	Soil (>12")/ Zachery Clayton	M/G	PCBs (21)	546925 (Not preserved) (1)	FP-13-3			--
E2CF0	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	546938 (Not preserved) (1)	FP-18-1			--
E2CF1	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	546939 (Not preserved) (1)	FP-18-2			--
E2CF2	Soil (>12")/ Zachery Clayton	M/G	PCBs (21)	546940 (Not preserved) (1)	FP-18-3			--
E2CF3	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	546941 (Not preserved) (1)	FP-19-1			--
E2CF4	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	546942 (Not preserved) (1)	FP-19-2			--
E2CF5	Soil (>12")/ Zachery Clayton	M/G	PCBs (21)	546943 (Not preserved) (1)	FP-19-3			--
E2CG5	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	546953 (Not preserved) (1)	FP-23-1			--
E2CG6	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	546954 (Not preserved) (1)	FP-23-2			--

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USEPA Contract Laboratory Program
Organic Traffic Report & Chain of Custody Record

Case No: 32161

DAS No:

R

Region: 5 Project Code: PR-R5-03-10207 Account Code: 68-S5-01-02 TO#3 CERCLIS ID: MID006007306 Spill ID: Site Name/State: 12th Street Landfill Operable Unit #4/MI Project Leader: Zachery Clayton Action: Remedial Design Sampling Co: Environmental Design International inc.	Date Shipped: 9/16/2003 Carrier Name: UPS Airbill: 1ZY137702210003062 Shipped to: Ceimic Corporation 10 Dean Knauss Drive Narragansett RI 02882 (401) 782-8900	Chain of Custody Record <table border="1"><tr><td>Relinquished By</td><td>(Date / Time)</td><td>Received By</td><td>(Date / Time)</td></tr><tr><td><i>[Signature]</i></td><td>9/16/03 17:50</td><td><i>[Signature]</i></td><td></td></tr><tr><td>2</td><td></td><td></td><td></td></tr><tr><td>3</td><td></td><td></td><td></td></tr><tr><td>4</td><td></td><td></td><td></td></tr></table>	Relinquished By	(Date / Time)	Received By	(Date / Time)	<i>[Signature]</i>	9/16/03 17:50	<i>[Signature]</i>		2				3				4				Sampler Signature: <i>[Signature]</i>
Relinquished By	(Date / Time)	Received By	(Date / Time)																				
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2																							
3																							
4																							

ORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No/ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME	INORGANIC SAMPLE No.	QC Type
E2CG7	Soil (>12")/ Zachery Clayton	M/G	PCBs (21)	546955 (Not preserved) (1)	FP-23-3	9/16/03		--
E2CJ6	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	546974 (Not preserved) (1)	FP-30-1			--
E2CJ7	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	546975 (Not preserved) (1)	FP-30-2			--
E2CJ8	Soil (>12")/ Zachery Clayton	M/G	PCBs (21)	546976 (Not preserved) (1)	FP-30-3			--
E2CK2	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	546980 (Not preserved) (1)	FP-32-1			--
E2CK3	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	546981 (Not preserved) (1)	FP-32-2			--
E2CK4	Soil (>12")/ Zachery Clayton	M/G	PCBs (21)	546982 (Not preserved) (1)	FP-32-3			--
E2CK8	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	546986 (Not preserved) (1)	FP-34-1			--
E2CK9	Soil (0"-12")/ Zachery Clayton	M/G	PCBs (21)	546987 (Not preserved) (1)	FP-34-2			--
E2CL0	Soil (>12")/ Zachery Clayton	M/G	PCBs (21)	546988 (Not preserved) (1)	FP-34-3			--

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USEPA Contract Laboratory Program
Organic Traffic Report & Chain of Custody Record

Case No: 32161

DAS No:

R

Region: 5	Date Shipped: 9/16/2003	Chain of Custody Record <table border="1"><tr><td>Relinquished By</td><td>(Date / Time)</td><td>Received By</td><td>(Date / Time)</td></tr><tr><td>1. [Signature]</td><td>9/16/03 17:00</td><td>[Signature]</td><td></td></tr><tr><td>2. [Signature]</td><td></td><td></td><td></td></tr><tr><td>3.</td><td></td><td></td><td></td></tr><tr><td>4.</td><td></td><td></td><td></td></tr></table>	Relinquished By	(Date / Time)	Received By	(Date / Time)	1. [Signature]	9/16/03 17:00	[Signature]		2. [Signature]				3.				4.			
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Action: Remedial Design																						
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E2CL8	Sediment/ Zachery Clayton	M/G	PCBs (21)	546751 (Not preserved) (1)	SD-01-2	9/16/03		--
E2CL9	Sediment/ Zachery Clayton	M/G	PCBs (21)	546752 (Not preserved) (1)	SD-02-1			--
E2CM0	Sediment/ Zachery Clayton	M/G	PCBs (21)	546753 (Not preserved) (1)	SD-02-2			--
E2CM1	Sediment/ Zachery Clayton	M/G	PCBs (21)	546754 (Not preserved) (1)	SD-03-1			--
E2CM2	Sediment/ Zachery Clayton	M/G	PCBs (21)	546755 (Not preserved) (1)	SD-03-2			--
E2CM3	Sediment/ Zachery Clayton	M/G	PCBs (21)	546756 (Not preserved) (1)	SD-04-1			--
E2CM4	Sediment/ Zachery Clayton	M/G	PCBs (21)	546757 (Not preserved) (1)	SD-04-2			--
E2CN6	Sediment/ Zachery Clayton	M/G	PCBs (21)	546769 (Not preserved) (1)	SD-10-2			--
E2CN7	Sediment/ Zachery Clayton	M/G	PCBs (21)	546770 (Not preserved) (1)	SD-11-1			--
E2CN8	Sediment/ Zachery Clayton	M/G	PCBs (21)	546771 (Not preserved) (1)	SD-11-2			--

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9/15/03 12th Street Landfill

Plainwell, MI

11 am Z. Clayton, EDI

S. Dileo, EDI

H. Janssek, EDI

arrive onsite for site work

S. Dileo called same day delivery
to arrange for drum drop off

1230 EPA Fields team arrive onsite

Chuck

John

1245 EPA FIELDS team leave

site to pick up trailer, equipment

EDI waiting for drum delivery

1300 EDI leaves site to pick up
field supplies

1400 EDI arrive back onsite
Same day delivery arrives onsite -
w/ 5 - 55-gallon drums (empty)
for waste

1430 tested sampling method in
wetland area

1500 began preparing liners for sampling
on Tuesday

12th Street

1505 FIELDS team arrive back
onsite

1520 Fields team setting up
GPS unit on ATV to double
check sample locations and
map trails

EDI unloading equipment into
fields trailer

1550 EDI leaves site to pick up
table for sample processing

9/16/03

8:00 am

EDI arrives onsite

FIELDS team arrive onsite

Began preparing ATV/boat for

S.I. sampling

HJ SD A ~~sample processing~~

area for soil sampling

830 Attempt FP-19 using Garcia
Slave method

52 9/16

12th Street

recovery 1'6"

Attempted 2 additional times

For better recovery, attempts fail

355 move to next ~~st~~ location

905 Attempt boring at FP-18

1'6" 2nd attempt, best recovery

1123 Move to different area in

flood plain to attempt boring
in dryer sediment

FP-32

3 attempts w/ poor recovery

4th attempt decent recovery

1007 ~~FP-34~~

attempted w/ geoprobe - poor recovery
using hand auger to collect sample

0-6"

moist

3" brown silt w/ organic material

3" light brown sand/gravel mixture
no odor, wet

10:11 FP 34 0-6" taken

decon equipment

9/16

12th St.

6+12"

6" light brown coarse grained sand
w/ gravel (angular)

moist

10:16 am FP 3-16-12" taken

decon equipment

12-18"

(submerged)

6" brown coarse sand w/ gravel and
cobbles (angular/subangular)

18-24"

Gravel Sizes range 0.25" - 2"

10:25 am sample FP 34 12-24"

decon equipment

1042 FP-30

will retrieve sample using hand auger

0-6"

dark brown ^{fine} silty silt with
organics

w/ coarse sand grains

10:50 Sample ^{no odor} ~~FP 30~~ 0-6"

12th St.

6-12"

6" med-coarse sand w/ .25-1"

Subangular cobbles

no odor, moist

FP-30 6-12 1055 am

12-24"

brown med. - coarse sand w/

Some ^{small} cobbles (s.s.)

no odor, saturated

FP 30 12-24" 11:02 am

11:15 FP-23 boring advanced
using sleeve method1135 FP-13 boring attempted
using geoprobe sleeve method1148 FP-S boring advanced
gray residuals visible at the surface
refusal at 1'
need to auger11:56 went back to staging area
to re-stock supplies

12th St.

1205 FIELDS team breaks for lunch

ED1 takes short break

1230 Z.C. leaves site for field supplies

HS/SD return to FP-S to

use hand auger

SP-S

1243 0-6" FP-S.1

gray silt-clay w/ some organic
residual material

1256 10-12" FP-S.2

gray silt-clay with reddish brown
(organics?) residual material

B11 12-24" FP-S.3

6" gray silty clay residual
material6" dark brown silty sand w/
some gravel material

1335 FP.3 boring advanced

1346 FP. 8. boring advanced
residual materials observed at
surface

56

9/16
12th St.

24:1400 attempt FP-12 boring
poor recovery on two attempts

1425 leave floodplain to re-think
sampling method; SD calls to
inquire about larger sampling
liners

1530 ordering 3" sample liners
will auger along ~~stream~~ bank
9/17 and continue Floodplain
sampling on Thursday.

Finishing sediment sampling for the
day (5 samples collected)

16:00 All samples collected were
processed

16:12 EDI drops waste in 55 gallon
drum, then leaves site
to prepare samples for
shipping

12th St

9/17/03 cool, clear GS

3 EDI, FIELDS team, Wistar, MDEC
on site

Wistar leaves for sediment sampling
EDI setting up racks for
sample processing

3:55 Attempt boring at F1
1st attempt poor recovery
2nd attempt w/ 2" tube, some
poor recovery

9:35 Attempt boring FP 1
w/ 3" tube and cork expanders
good recovery

will order 3" sleeves and
continue Flood plain sampling
9/18/03

Dropped off FP sampling
equipment at sample
processing area

12th St.

957 begin hand auging

Exp 130-6" dry gray silty residual
material w/ some gravel and
organic materials6-12" dry gray silty residual
material w/ some gravel12"-24" dry gray silty residual
material w/ some gravel

10:06 EXP 13 complete

EXP 12 - 1013

0-6"

brown fine sand rich in organic
material6-12" light ^{reddish brown} brown fine sand
w/ organics and traces of
gravel12-24" light brown reddish brown fine
sand w/ traces of gravel
and cobbles (0.25"-2")

9/17 12th St.

EXP 6

10:24

0-6" dark brown very fine

sand w/ organic material

6"-12" reddish brown very fine
sand w/ traces of small
gravel/cobbles (.25-.5")

Subangular

12-¹⁸₂₄" reddish brown very fine
sand w/ traces of small
cobblesEXP 11

10:37

0-6"

dark brown fine sand

w/ organics / traces of gravel

6-12" dark brown fine sand

w/ some organics, traces of gravel

12-24" ¹⁸₂₄" dark brown, red-brown fine
sand w/ gravel, organicsEXP 4

10:42

0-6"

dark brown fine sand

in ~~regions~~ w/ traces of gravel

6-12"

brown very fine sand w/

gravel (.25-.5")

12-24"

reddish brown fine sand

w/ small cobbles (.25-2")

9/17

12th St.

Exp 9

1050

- 0-6" dark brown fine sand
w/ ^{subangular} small cobbles (.25-1.5")
rich in organics
- 6-12" dark brown fine sand
w/ rounded ^{subangular} pebbles
- 12-24" dark brown fine sand
w/ subangular/rounded pebbles

Exp 8

1101

- 0-6" brown very fine sand
w/ traces of gravel/organics
- 6-12" reddish brown fine sand
w/ traces of gravel
and subangular cobbles
(.25-1.5")

12-24"

11:15 head back to staging area to
Exp 9 switch out decon water, drop
off samples and restock supplies

11:30 sediment sampling finishing up

9/17

12th St.

Exp 5

1156

- 0-6" brown fine sand w/ some
organics
- 6-12" red-brown fine sand w/ some
organics
- 12-24" red-brown fine sand w/
subangular gravel

Exp 3

1207

- 0-6" dark brown fine sand
w/ traces of subangular gravel
rich in organics
- 6-12" dark brown fine sand
rich in organics
w/ cobbles (.25-2")
- 12-18" dark brown fine sand
w/ organics
cobbles (.25-4")
- Refined @ 18" (

Exp 10

1220

- 0-6" brown fine sand w/ cobbles
(.25-2") some organics
- 6-12" Same →
- 12-24" Same → and reddish-brown

12th St.

[EXP -17 duplicate taken at
EXP -10 location]

EXP 2 12:35

0-6" gray silt residual
material w/ traces of
gravel

6-12" gray silt residual
material w/ traces of
gravel (traces of brown
sand)

12-24" brown fine sand
w/ traces of cobbles
(.25-2")

EXP 1 12:45

0-6" brown sand, gray residual
material cobbles (.25-2.5")
some organics

6-12" gray silt residual
material

12-24" brown fine sand / gray
silt residual
material
w/ traces of gravel

12th St.

1:00 Went back to staging area
to drop off samples, re-stock
equipment

1:30 processing samples

EXP 7

0-6" dark brown / red-brown
fine sand w/ cobbles (.25-2")
rich in organics

6-12" Same ↑

12-24" reddish brown fine sand
w/ cobbles (.25-2")

EXP 15 1:55

0-6" brown fine sand w/
traces of gravel / organic
material

6-12" Same ↑

12-24" brown fine sand
w/ traces of cobbles (.25-2")

EXP 16 2:10

0-6" dark brown fine sand
rich in organics w/ traces of
cobbles

6-12" Same ↑

64

9/17

12th St.

12-24"

dark brown fine sand
w/ traces of cobbles (mostly)
Some light brown w/ organics

Exp 14 2:28

0-6" dark brown fine silt/sand
rich in organics

6-12" dark brown silt/clay
w/ traces of cobbles (mostly)

12-24"

6" dark brown/dark gray silty
clay w/ traces of gravel
6' brown sandy clay w/
traces of gravel
Rich in organic material

2:40 return to sample processing area
to begin processing samples

3:00 all samples processed, begin
packing up for the day

3:30 EDI, FIELDS team leave site
EDI to prepare samples for shipping

9/17-9/18

12th St.

520 3 coolers dropped off at US
1 cooler 36 Samples
1 cooler 18 Samples
1 cooler 24 Samples

9/18 Tuesday, US Sunny

8 EDI arrive - site
begin preparing for Field plan
sampling

900 FP 8 (pic 45)

abandoned boring location
to serve for sample line
method

918 FP 4

0-6" gray silt/clay residual
material w/ some organics

6-12" same

12-24" same

FP 16 932

0-6" gray silt/clay residual
material w/ some organics

6-12" same

12-24" same

12th St.

FP 2 9:39

0-6" dark brown very fine
sand / silt rich in organics

6-12" Same ↑

12-24" gray silt/clay residual
material

FP 15 9:58 (Pic 47)

0-6" moist gray clayey silt
residual material

6-12" Same ↑

12-24" Same ↑ more clay
like B 18-24"

FP 17 10:13

0-6" dry silt/clay residual
material (gray) w/ some
organics

6-12" Same ↑

12-24" Same ↑ more silty clay
18-24" (moist)

9/18

12th St.

FP 7 10:29 [49 pic]

0-6" brown silty clayey silt
rich in organics - moist6-12" brown fine sand
w/ some organics - moist12-24" gray-brown, brown fine
sand w/ traces of organic
material (saturated)

FP 4 10:44

0-6" ^{clayey} gray silt residual
material (moist)6-12" 3" black, brown fine
sand rich in organics

moist 3" gray residual material

12-24" dark brown/black silt

Very rich in organics w/
traces of residual material
(saturated)Duplicate #35 Sample collected
from FP 4 location

9/18
12th St.

FP 26

11:08

0-6" dark brown silt very
rich in organics.
6-12" dark brown silt
rich in organics w/ traces
of gravel, fine sand
12-24"
6" brown fine sand w/
traces of gravel
6" silty brown sand
w/ gravel

11:20 return to sample processing
area

11:30 break & lunch

12:30 Return from lunch, begin
preparing for flood plain samples

12:35 Z, SD leave processing area to

begin sampling in flood plain
12:32 owner Rep leaves site

9/18
12th St.

13:00 FP 28

advanced 24"

13:15 FP 31

advanced 29"

13:25 FP-10

22" Recovery

13:35 FP-09

24" Recovery

14:05 FP-22

27" R.

14:15 FP-27

24" R.

14:25 FP-24

24" R.

14:30 FP-20

20" R.

14:36 FP-33

20" R.

14:45 FP-29

26" R.

14:50 FP 21

20" R.

7/18
12th St.
1515 FP-12 26" R.

1525 FP-11 24" R.

1540 FP-25 26" R

1650 FP-14 24" R

1725 Sample processing complete
All samples complete
Cleaning up site for the day

1735 HJ, SD, ZC leave site

9/19/03

12th St.

71

730 began preparing samples for
shipping (COCs, etc.)

9 arrive onsite

ZC/SD take refuse to 55-gallon
drums, break down 3" tubes,
close drums

HJ photographs each boring
location

10 SD/ZC continue site clean up
and begin loading equipment
into truck

1130 SD/ZC have completed site clean up
HJ finishing photos

1200 ED leaves site to drop
off samples for shipping

1230 3 coolers dropped at UPS

1 - 27 samples

1 - 27 samples

1 - 21 samples

124 Westland Hill
USEPA STAT Contract
EPI Personnel: EC, SD, HJ

9/16/03

7:30 EPI Team leaves for site, getting
in for samples.

7:45 EPI onsite setting up work station
8:00 USCA FIELD Team on site
(Chuck, John, Amy)

Amy, SD & HJ set off to collect
samples in

8:30 Plainville lawyer on site

8:35 SD called me to tell me
that they are only collecting
1'-6" of sample in the liner.
I stated that this should be
sufficient to collect sample
at this depth.

8:45 EC setting up FORMS II LITE
for sediment sampling.

9:15 Weston personnel onsite to discuss
boat launch. EC instructed
Weston to not use motor on
boat and place boat in
water at portage area.

9:45 Fields team has marked
several areas of
the channel.

10:00 Weston arrives w/ the boat.

10:15 Weston performs their health
& safety meeting.

10:45 Weston prepares the boat w/
their equipment.

11:15 Weston leaves site for lunch
and retrieve additional
equipment (lexan tubing)

11:45 5 borings in the flood plain
have been completed. EC
has processed the 15 samples
for shipment.

11:50 Two additional borings are
brought to processing area.

SD-01

1-6"

Coarse grain sand
w/ semi angular grains

6-12" same

D-16

0-6" Coarse grain sand
w/ semi angular grains

6-12" same

SD-01 10" recovery

4" Lt gray silty silt

6" Lt gray coarse grain sand

SD-06 Duplicate sample taken (SD-12
1+2)

0-6" 4" Lt gray silt

2" Lt gray med. to fine grain sand

6-12"

6" Med to coarse grain sand (lt. brown)

Jul 2

SD-08

0-6" Lt. brown to black silty silt

6-12" Lt. brown fine grain sand
to a coarse grain sand

SD-15

0-6"

1" Lt. brown silt

5" Lt. brown coarse grain
sand

6-12"

6" Brown coarse grain sand

SD-07

0-6" Lt. brown silt

6-12" Lt. brown silt (2")

Lt. gray clay (4")

SD-05 10" recovery

4" gray silt w/ fine grain sand

6" fine grain sand

SD-11

0-6" 4" Lt. brown silt

2" Lt. brown coarse grain sand

6-12" 6" Lt. brown coarse grain sand

Jul 2

SP-13

0.6" 1" lt brown silt

5" lt brown coarse grain sand

6-12' 6" lt brown coarse grain sand

SB-12

0.6" lt brown silt

6-12' lt brown silt mixed w/ fine
grain sand.

2L

12th Street Landfill

7/24/53

USEPA STMT

Resampling event

EDC personnel: ZC/SD

Weather: Clear, 45° F

5:00 am ZC/SD (and vehicle) arrived
at site.

9:00 am (ETD) ZC/SD on site preparing
to sample.

9:35 ZC/SD began making to phase plan

9:45 SB 24 observed

9:55 SB 16 advanced, stuck in ground.

Go to truck to get supplies
Kerl from NIDEC on site.

10:00 Drums delivered to site.

9/25/55

- 11:00 EDI continues to collect all samples
coining needed.
- 15:00 EDI completes sampling and begins
sample processing for lab calibration
- 17:30 EDI completes sample processing
and begins to dispose of
disposable sampling materials in
the drums.
- 18:00 Drums are secured and labeled
EDI leaves the site.

9/30/53

- 8:00 EDI re-ices down samples
and ships them to A4 Scintaire
for analysis.
- 8:40 ZC/SD not back to Chicago

ZC
9/30/53

Appendix 5



**Environmental Design
International inc.**

200 S. Michigan Avenue, Suite 700
Chicago, Illinois 60604

phone 312.356.5400
fax: 312.356.5499

November 7, 2003

Mr. Tim Prendiville, WAM
U.S. Environmental Protection Agency
Superfund Division Region 5
77 West Jackson Boulevard
Chicago, Illinois 60604

**Subject: 12th Street Landfill, Kalamazoo River Superfund Site
Operable Unit #04 Plainwell, Michigan**

Dear Mr. Prendiville,

Environmental Design International, inc. performed soil sampling activities at the 12th Street Landfill, Kalamazoo River Superfund Site Operable Unit #04 in Plainwell, Michigan. Please find the attached soil boring logs describing the lithology at each sample location for the September 2003 sampling event.

Please call Zachery Clayton, EDI Site Manager, at 312 356-5400 x128 for any assistance.

Respectfully,

Environmental Design International, inc.

Hilary Janousek
Geologist

Attachment

Cc: Keith M. Krawczyk, MDEQ
John R. Bing-Canar, USEPA



LOG OF BORING FP-01

(Page 1 of 1)

USEPA - Region 5
Applied Paper - 12th Street Landfill
Operable Unit #04
Plainwell, MI
Pre-Soil and Sediment Design

Date Completed : September 17, 2003
Sampled by : Zachery Clayton

Depth in feet	USCS	GRAPHIC	Water Levels	DESCRIPTION	Probe Recovery (inches)	REMARKS
0				6" Light brown peat with roots		
	PT					
				6" Dark grey silty sand		
	SM					
1				2" Dark grey silty sand	22	
	SM			4" Black silty sand with areas of grey coloration located sparsely (2-3 cm.) throughout		
				4" Black silty sand with areas of grey coloration located sparsely (2-3 cm.) throughout		
	SM					
2						



LOG OF BORING FP-02

(Page 1 of 1)

USEPA - Region 5
Applied Paper - 12th Street Landfill
Operable Unit #04
Plainwell, MI
Pre-Soil and Sediment Design

Date Completed : September 29, 2003
Sampled by : Scott Dileto

Depth in feet	USCS	GRAPHIC	Water Levels	DESCRIPTION	Probe Recovery (inches)	REMARKS
0						
	SM			6" Dark brown silty sand rich in organics		
	SM			6" Dark brown silty sand rich in organics		
1	CL			6" Grey silty clay residual material with organics	24	
	CL			6" Grey silty clay residual material with organics		
2						



LOG OF BORING FP-03

(Page 1 of 1)

USEPA - Region 5
Applied Paper - 12th Street Landfill
Operable Unit #04
Plainwell, MI
Pre-Soil and Sediment Design

Date Completed : September 16, 2003
Sampled by : Zachery Clayton

Depth in feet	USCS	GRAPHIC	Water Levels	DESCRIPTION	Probe Recovery (inches)	REMARKS
0	PT			4" Dark brown organic peat material with roots		
				2" Dark brown/ black organic silty clay with peat material mixed in		
	OL			6" Dark brown/ black organic silty clay with peat material mixed in		
1	SM			6" Light brown silty sand with angular grains, well-sorted	20	
	SM			4" Light brown silty sand with angular grains, well sorted		
2						



LOG OF BORING FP-04

(Page 1 of 1)

USEPA - Region 5
Applied Paper - 12th Street Landfill
Operable Unit #04
Plainwell, MI
Pre-Soil and Sediment Design

Date Completed : September 29, 2003
Sampled by : Scott Dileto

Depth in feet	USCS	GRAPHIC	Water Levels	DESCRIPTION	Probe Recovery (inches)	REMARKS
0						
	ML			6" Grey clayey silt residual material - moist with organics		
	SW/ML			3" Black and brown fine sand - moist rich in organics 3" Grey residual material - moist		
1					24	
	OH			6" Dark brown and black silt - saturated rich in organics with traces of grey residuals with traces of organics		
	OH			6" Dark brown and black silt - saturated rich in organics with traces of grey residuals with traces of organics		
2						



LOG OF BORING FP-05

(Page 1 of 1)

USEPA - Region 5
Applied Paper - 12th Street Landfill
Operable Unit #04
Plainwell, MI
Pre-Soil and Sediment Design

Date Completed : September 16, 2003
Sampled by : Zachery Clayton

Depth in feet	USCS	GRAPHIC	Water Levels	DESCRIPTION	Probe Recovery (inches)	REMARKS
0				6" Light grey silt residuals		
	ML					
				6" Light grey silt residuals		
	ML					
1				6" Dark brown organic soil interlayered with residuals	24	
	PT/ML					
				6" Dark brown organic soil interlayered with residuals		
	PT/ML					
2						

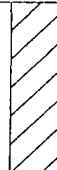

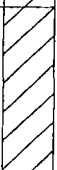



LOG OF BORING FP-06

(Page 1 of 1)

USEPA - Region 5
Applied Paper - 12th Street Landfill
Operable Unit #04
Plainwell, MI
Pre-Soil and Sediment Design

Date Completed : September 29, 2003
Sampled by : Scott Dileto

Depth in feet	USCS	GRAPHIC	Water Levels	DESCRIPTION	Probe Recovery (inches)	REMARKS
0						
	CL			6" Grey silty clay residual material with organics		
	CL			6" Grey silty clay residual material with organics		
1	CL			6" Grey silty clay residual material with organics	24	
	CL			6" Grey silty clay residual material with organics		
2						



LOG OF BORING FP-07

(Page 1 of 1)

USEPA - Region 5
Applied Paper - 12th Street Landfill
Operable Unit #04
Plainwell, MI
Pre-Soil and Sediment Design

Date Completed : September 29, 2003
Sampled by : Hilary Janousek

Depth in feet	USCS	GRAPHIC	Water Levels	DESCRIPTION	Probe Recovery (inches)	REMARKS
0	OH			6" Brown clayey silt - moist rich in organics		
	SP			6" Brown fine sand - moist with organics		
1	SP			6" Grey, brown fine sand - saturated with traces of organics	24	
	CL			6" Grey, brown fine sand - saturated with traces of organics		
2						



LOG OF BORING FP-08

(Page 1 of 1)

USEPA - Region 5
Applied Paper - 12th Street Landfill
Operable Unit #04
Plainwell, MI
Pre-Soil and Sediment Design

Date Completed : September 16, 2003
Sampled by : Zachery Clayton

Depth in feet	USCS	GRAPHIC	Water Levels	DESCRIPTION	Probe Recovery (inches)	REMARKS
0				6" Light grey clay, residuals		
	CL					
				6" Light grey clay, residuals		
	CL					
1				4" Light grey clay, residuals	20	
	CL/PT			2" Black organic peat		
				2" Black organic peat		
	PT					
2						



LOG OF BORING FP-09

(Page 1 of 1)

USEPA - Region 5
Applied Paper - 12th Street Landfill
Operable Unit #04
Plainwell, MI
Pre-Soil and Sediment Design

Date Completed : September 29, 2003
Sampled by : Zachery Clayton

Depth in feet	USCS	GRAPHIC	Water Levels	DESCRIPTION	Probe Recovery (inches)	REMARKS
0				4" Dark brown/ black peat		
	PT			2" Soft brown clay with organics, saturated		
				4" Dark brown silt with organics		
	OH			2" Grey sandy silt, saturated		
1				4" Grey silt residual material, saturated	24	
	SM			2" Dark brown/ black peat material		
				6" Dark brown/ black peat material		
	PT					
2						



LOG OF BORING FP-10

(Page 1 of 1)

USEPA - Region 5
Applied Paper - 12th Street Landfill
Operable Unit #04
Plainwell, MI
Pre-Soil and Sediment Design

Date Completed : September 29, 2003
Sampled by : Zachery Clayton

Depth in feet	USCS	GRAPHIC	Water Levels	DESCRIPTION	Probe Recovery (inches)	REMARKS
0				4" Dark brown/ black peat material		
	PT			2" Soft brown clay with organic material, saturated		
				6" Soft brown clay with organic material, saturated		
1	OH			6" Dark brown/ black silt rich in organics (peat material), moist	22	
	OH			4" Dark brown/ black silt rich in organics (peat material), moist		
2	OH					



LOG OF BORING FP-11

(Page 1 of 1)

USEPA - Region 5
Applied Paper - 12th Street Landfill
Operable Unit #04
Plainwell, MI
Pre-Soil and Sediment Design

Date Completed : September 29, 2003
Sampled by : Zachery Clayton

Depth in feet	USCS	GRAPHIC	Water Levels	DESCRIPTION	Probe Recovery (inches)	REMARKS
0				6" Dark brown clayey silt with organics, moist		
	OL					
				6" Dark brown clayey silt rich in organics, saturated		
	OL					
1				6" Dark brown very fine sand with traces of organics and gravel, moist	24	
	SP					
				6" Dark brown very fine sand with traces of organics and gravel, moist		
	SP					
2						



LOG OF BORING FP-12

(Page 1 of 1)

USEPA - Region 5
Applied Paper - 12th Street Landfill
Operable Unit #04
Plainwell, MI
Pre-Soil and Sediment Design

Date Completed : September 29, 2003
Sampled by : Zachery Clayton

Depth in feet	USCS	GRAPHIC	Water Levels	DESCRIPTION	Probe Recovery (inches)	REMARKS
0				6" Dark brown clayey silt rich in organic peat material		
	OL					
				3" Dark brown clayey silt rich in organic peat material		
	OL			3" Dark brown/ black clayey silt		
1					24	
	CL			6" Dark grey/ black clayey silt		
	SP			2" Grey very fine-grained sand		
				4" Grey/ black/ brown very fine sand with organics		
2						



LOG OF BORING FP-13

(Page 1 of 1)

USEPA - Region 5
Applied Paper - 12th Street Landfill
Operable Unit #04
Plainwell, MI
Pre-Soil and Sediment Design

Date Completed : September 16, 2003
Sampled by : Zachery Clayton

Depth in feet	USCS	GRAPHIC	Water Levels	DESCRIPTION	Probe Recovery (inches)	REMARKS
0						
	PT			4" Dark brown organic peat material		
				2" Dark brown silty sand		
	SM			2" Dark brown silty sand		
				4" Light brown silty sand		
1				6" Light brown silty sand	22	
	SM					
				4" Light brown silty sand		
	SM					
2						



LOG OF BORING FP-14

(Page 1 of 1)

USEPA - Region 5
Applied Paper - 12th Street Landfill
Operable Unit #04
Plainwell, MI
Pre-Soil and Sediment Design

Date Completed : September 29, 2003
Sampled by : Zachery Clayton

Depth in feet	USCS	GRAPHIC	Water Levels	DESCRIPTION	Probe Recovery (inches)	REMARKS
0				6" Dark brown silt with organics, moist		
	OH					
				6" Dark brown silt with organics and cobbles (0.25-1.5"), moist		
	OH					
1				6" Brown sand with traces of organics and cobbles (0.25 - 1.5")	24	
	SW					
				6" Brown sand with traces of organics and cobbles (0.25 - 1.5")		
	SW					
2						



LOG OF BORING FP-15

(Page 1 of 1)

USEPA - Region 5
Applied Paper - 12th Street Landfill
Operable Unit #04
Plainwell, MI
Pre-Soil and Sediment Design

Date Completed : September 29, 2003
Sampled by : Scott Dileto

Depth in feet	USCS	GRAPHIC	Water Levels	DESCRIPTION	Probe Recovery (inches)	REMARKS
0						
	ML			6" Grey clayey silt residual material with organics		
	ML			6" Grey clayey silt residual material with organics		
1	ML			6" Grey clayey silt residual material with organics	24	
	CL			6" Grey silty clay residual material with organics		
2						







LOG OF BORING FP-16

(Page 1 of 1)

USEPA - Region 5
Applied Paper - 12th Street Landfill
Operable Unit #04
Plainwell, MI
Pre-Soil and Sediment Design

Date Completed : September 29, 2003
Sampled by : Scott Dileto

Depth in feet	USCS	GRAPHIC	Water Levels	DESCRIPTION	Probe Recovery (inches)	REMARKS
0						
	CL			6" Grey silty clay residual material with organics		
	CL			6" Grey silty clay residual material with organics		
1	CL			6" Grey silty clay residual material with organics	24	
	CL			6" Grey silty clay residual material with organics		
2						



LOG OF BORING FP-17

(Page 1 of 1)

USEPA - Region 5
Applied Paper - 12th Street Landfill
Operable Unit #04
Plainwell, MI
Pre-Soil and Sediment Design

Date Completed : September 29, 2003
Sampled by : Scott Dileto

Depth in feet	USCS	GRAPHIC	Water Levels	DESCRIPTION	Probe Recovery (inches)	REMARKS
0						
	ML			6" Dry clayey silt residual material with organics		
	ML			6" Grey clayey silt residual material with organics		
1					24	
	ML			6" Grey clayey silt residual material with organics		
	CL			6" Grey silty clay residual material with organics		
2						



LOG OF BORING FP-18

(Page 1 of 1)

USEPA - Region 5
Applied Paper - 12th Street Landfill
Operable Unit #04
Plainwell, MI
Pre-Soil and Sediment Design

Date Completed : September 16, 2003
Sampled by : Zachery Clayton

Depth in feet	USCS	GRAPHIC	Water Levels	DESCRIPTION	Probe Recovery (inches)	REMARKS
0				6" Organic material		
	OL					
				4" Clay residual material		
	CL/PT			2" Dark brown organic peat		
1				6" Dark brown organic peat	20	
	PT					
				2" Dark brown organic peat		
	PT					
2						



LOG OF BORING FP-19

(Page 1 of 1)

USEPA - Region 5
Applied Paper - 12th Street Landfill
Operable Unit #04
Plainwell, MI
Pre-Soil and Sediment Design

Date Completed : September 16, 2003
Sampled by : Zachery Clayton

Depth in feet	USCS	GRAPHIC	Water Levels	DESCRIPTION	Probe Recovery (inches)	REMARKS
0						
	PT			6" Organic peat material		
	CL			6" Grey and light brown silty clay, moist		
1					20	
				3" Grey and light brown silty clay, moist		
	CL/PT			3" Dark brown peat		
				2" Dark brown peat		
	PT					
2						



LOG OF BORING FP-20

(Page 1 of 1)

USEPA - Region 5
Applied Paper - 12th Street Landfill
Operable Unit #04
Plainwell, MI
Pre-Soil and Sediment Design

Date Completed : September 29, 2003
Sampled by : Zachery Clayton

Depth in feet	USCS	GRAPHIC	Water Levels	DESCRIPTION	Probe Recovery (inches)	REMARKS
0				3" Organic peat material		
	PT			3" Soft brown clay rich in organics		
				6" Dark brown/ black silt rich in organics, saturated		
	OH					
1				6" Dark brown silt rich in organics	20	
	OH					
				2" Medium-fine grey sand		
	SP					
2						



LOG OF BORING FP-21

(Page 1 of 1)

USEPA - Region 5
Applied Paper - 12th Street Landfill
Operable Unit #04
Plainwell, MI
Pre-Soil and Sediment Design

Date Completed : September 29, 2003
Sampled by : Zachery Clayton

Depth in feet	USCS	GRAPHIC	Water Levels	DESCRIPTION	Probe Recovery (inches)	REMARKS
0				3" Dark brown peat material, moist		
	PT			3" Soft brown clay rich in organics, moist		
				2" Soft brown clay rich in organics, moist		
	OH			2" Dark brown/ black silt rich in organics, moist		
1				6" Dark brown/ black silt rich in organics, saturated	24	
	OH					
				1" Dark brown/ black silt rich in organics, saturated		
	SP			1" Fine to medium grained sand		
2						



LOG OF BORING FP-22

(Page 1 of 1)

USEPA - Region 5
Applied Paper - 12th Street Landfill
Operable Unit #04
Plainwell, MI
Pre-Soil and Sediment Design

Date Completed : September 29, 2003
Sampled by : Zachery Clayton

Depth in feet	USCS	GRAPHIC	Water Levels	DESCRIPTION	Probe Recovery (inches)	REMARKS
0				4" Dark brown peat material, moist		
	PT			2" Brown clay rich in organics, saturated		
				4" Soft brown clay rich in organics		
	OH			2" Dark brown/ black peat material		
1				6" Dark brown/ black peat material	24	
	PT					
				6" Dark brown/ black peat material		
	PT					
2						



LOG OF BORING FP-23

(Page 1 of 1)

USEPA - Region 5
Applied Paper - 12th Street Landfill
Operable Unit #04
Plainwell, MI
Pre-Soil and Sediment Design

Date Completed : September 16, 2003
Sampled by : Zachery Clayton

Depth in feet	USCS	GRAPHIC	Water Levels	DESCRIPTION	Probe Recovery (inches)	REMARKS
0				4" Light brown organic peat material		
	PT			2" Light grey silty organic material with some roots		
				3" Light grey silty organic material with some roots		
	OH/SM			3" Dark grey and black organic material with silty sand		
1				6" Dark grey and black organic material with silty sand	20	
	OH/SM					
	OH/SM					
2						



LOG OF BORING FP-24

(Page 1 of 1)

USEPA - Region 5
Applied Paper - 12th Street Landfill
Operable Unit #04
Plainwell, MI
Pre-Soil and Sediment Design

Date Completed : September 29, 2003
Sampled by : Zachery Clayton

Depth in feet	USCS	GRAPHIC	Water Levels	DESCRIPTION	Probe Recovery (inches)	REMARKS
0				2" Dark brown peat material		
	PT			4" Soft brown clay with peat material, saturated		
				4" Dark brown peat material		
	OH			2" Soft brown/grey clay rich in organics, saturated		
1				6" Dark brown silt rich in organics	24	
	OH			6" Dark brown silt rich in organics		
2						



LOG OF BORING FP-25

(Page 1 of 1)

USEPA - Region 5
Applied Paper - 12th Street Landfill
Operable Unit #04
Plainwell, MI
Pre-Soil and Sediment Design

Date Completed : September 29, 2003
Sampled by : Zachery Clayton

Depth in feet	USCS	GRAPHIC	Water Levels	DESCRIPTION	Probe Recovery (inches)	REMARKS
0				6" Dark brown clayey silt with peat material		
	OL					
				6" Dark brown very fine sand with traces of organics		
	SP					
1				6" Light brown fine sand with organics	24	
	SP					
				2" Light brown fine sand with organics		
				4" Grey/ black/ brown very fine sand with organics		
	SP					
2						



LOG OF BORING FP-26

(Page 1 of 1)

USEPA - Region 5
Applied Paper - 12th Street Landfill
Operable Unit #04
Plainwell, MI
Pre-Soil and Sediment Design

Date Completed : September 29, 2003
Sampled by : Scott Dileto

Depth in feet	USCS	GRAPHIC	Water Levels	DESCRIPTION	Probe Recovery (inches)	REMARKS
0	OL			6" Dark brown silt rich in organics	24	
	OL			6" Dark brown silt rich in organics with traces of gravel and fine sand		
1	SP			6" Brown fine sand with traces of gravel		
	SP			6" Brown sand - saturated with gravel		
2						



LOG OF BORING FP-27

(Page 1 of 1)

USEPA - Region 5
Applied Paper - 12th Street Landfill
Operable Unit #04
Plainwell, MI
Pre-Soil and Sediment Design

Date Completed : September 29, 2003
Sampled by : Zachery Clayton

Depth in feet	USCS	GRAPHIC	Water Levels	DESCRIPTION	Probe Recovery (inches)	REMARKS
0				2" Dark brown peat material		
	PT			4" Soft brown clay with peat material, saturated		
				6" Peat material with dark brown silt, saturated		
1	OH			6" Black silt rich in organics	24	
				4" Black silt rich in organics		
				2" Medium-coarse grained grey sand		
	SP/OL					
2						



LOG OF BORING FP-28

(Page 1 of 1)

USEPA - Region 5
Applied Paper - 12th Street Landfill
Operable Unit #04
Plainwell, MI
Pre-Soil and Sediment Design

Date Completed : September 29, 2003
Sampled by : Zachery Clayton

Depth in feet	USCS	GRAPHIC	Water Levels	DESCRIPTION	Probe Recovery (inches)	REMARKS
0				6" Brown clayey silt with organic material (peat/ roots), moist		
	OL					
				6" Soft brown clayey silt rich in organic material (peat)		
	OL					
1				6" Black peat material	24	
	PT					
				2" Black peat material		
				4" Brown soft clay, rich in organics		
	OH					
2						



LOG OF BORING FP-29

(Page 1 of 1)

USEPA - Region 5
Applied Paper - 12th Street Landfill
Operable Unit #04
Plainwell, MI
Pre-Soil and Sediment Design

Date Completed : September 29, 2003
Sampled by : Zachery Clayton

Depth in feet	USCS	GRAPHIC	Water Levels	DESCRIPTION	Probe Recovery (inches)	REMARKS
0				6" Dark brown/black peat material with silt		
PT/OH						
				6" Dark brown/black peat material with silt, saturated		
PT/OH						
1				6" Dark grey clayey silt with traces of organics and gravel	24	
OL						
				6" Dark grey clayey silt with traces of organics and gravel		
OL						
2						



LOG OF BORING FP-30

(Page 1 of 1)

USEPA - Region 5
Applied Paper - 12th Street Landfill
Operable Unit #04
Plainwell, MI
Pre-Soil and Sediment Design

Date Completed : September 16, 2003
Sampled by : Zachery Clayton

Depth in feet	USCS	GRAPHIC	Water Levels	DESCRIPTION	Probe Recovery (inches)	REMARKS
0						
	PT			6" Dark brown organic material with traces of sand and roots		
	GP			6" Light brown rounded sand with traces of angular gravel		
1						
	GP			6" Light brown sand with traces of angular gravel	24	
	GP			6" Light brown sand with traces of angular gravel		
2						



LOG OF BORING FP-31

(Page 1 of 1)

USEPA - Region 5
Applied Paper - 12th Street Landfill
Operable Unit #04
Plainwell, MI
Pre-Soil and Sediment Design

Date Completed : September 29, 2003
Sampled by : Zachery Clayton

Depth in feet	USCS	GRAPHIC	Water Levels	DESCRIPTION	Probe Recovery (inches)	REMARKS
0	PT			4" Dark brown/ black peat material 2" Soft brown clay with rich in organics		
				6" Dark brown/ black peat material, saturated		
1	PT			6" Dark brown/ black peat material, saturated		
	PT			6" Dark brown/ black peat material, saturated		
2						



LOG OF BORING FP-32

(Page 1 of 1)

USEPA - Region 5
Applied Paper - 12th Street Landfill
Operable Unit #04
Plainwell, MI
Pre-Soil and Sediment Design

Date Completed : September 16, 2003
Sampled by : Zachery Clayton

Depth in feet	USCS	GRAPHIC	Water Levels	DESCRIPTION	Probe Recovery (inches)	REMARKS
0				6" Dark brown organic soil, moist with roots		
	PT					
				6" Dark grey silty organic material, moist		
	OH					
1				6" Dark grey silty organic material, moist	20	
	OH					
				2" Dark grey silty organic material, moist		
	OH					
2						



LOG OF BORING FP-33

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USEPA - Region 5
Applied Paper - 12th Street Landfill
Operable Unit #04
Plainwell, MI
Pre-Soil and Sediment Design

Date Completed : September 29, 2003
Sampled by : Zachery Clayton

Depth in feet	USCS	GRAPHIC	Water Levels	DESCRIPTION	Probe Recovery (inches)	REMARKS
0				6" Peat material with very fine clayey sand, moist		
	PT					
				6" Medium to fine grey sand with traces of organics, moist		
	SP					
1				6" Medium to fine grey sand with traces of organics, moist	20	
	SP					
				2" Medium to fine grey sand with traces of organics, moist		
	SP					
2						







LOG OF BORING FP-34

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USEPA - Region 5
Applied Paper - 12th Street Landfill
Operable Unit #04
Plainwell, MI
Pre-Soil and Sediment Design

Date Completed : September 16, 2003
Sampled by : Zachery Clayton

Depth in feet	USCS	GRAPHIC	Water Levels	DESCRIPTION	Probe Recovery (inches)	REMARKS
0						
	PT			6" Black organic peat material		
	CL			6" Light brown clay		
1					24	
	GP			6" Light brown sand with traces of angular gravel		
	GP			6" Light brown sand with traces of angular gravel		
2						



LOG OF BORING SD-01

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USEPA - Region 5
Applied Paper - 12th Street Landfill
Operable Unit #04
Plainwell, MI
Pre-Soil and Sediment Design

Date Completed : 9/16/03
Sampled by : Zachery Clayton

Depth in feet	USCS	GRAPHIC	Water Levels	DESCRIPTION	Probe Recovery (inches)	REMARKS
0				4" Dark grey silty sediment		
	MH			2" Dark grey coarse grain sand		
				6" Dark grey coarse grain sand		
1	SP				10	
2						







LOG OF BORING SD-05

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USEPA - Region 5
Applied Paper - 12th Street Landfill
Operable Unit #04
Plainwell, MI
Pre-Soil and Sediment Design

Date Completed : 9/16/03
Sampled by : Zachery Clayton

Depth in feet	USCS	GRAPHIC	Water Levels	DESCRIPTION	Probe Recovery (inches)	REMARKS
0	MH			4" Grey silt	10	
				2" Fine grain sand		
	SP			6" Fine grain sand		
1						
2						

LOG OF BORING SD-07

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USEPA - Region 5
Applied Paper - 12th Street Landfill
Operable Unit #04
Plainwell, MI
Pre-Soil and Sediment Design

Date Completed : 9/16/03
Sampled by : Zachery Clayton

Depth in feet	USCS	GRAPHIC	Water Levels	DESCRIPTION	Probe Recovery (inches)		REMARKS
0	MH			6" Light brown silt			
	CH			2" Light brown silt 4" Light grey clay	12		
1							
2							



LOG OF BORING SD-08

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USEPA - Region 5
Applied Paper - 12th Street Landfill
Operable Unit #04
Plainwell, MI
Pre-Soil and Sediment Design

Date Completed : 9/16/03
Sampled by : Zachery Clayton

Depth in feet	USCS	GRAPHIC	Water Levels	DESCRIPTION	Probe Recovery (inches)	REMARKS
0				6" Light brown to black silty sediment		
	MH					
				6" Light brown fine grain sand to a coarse grain sand		
	SW					
1					12	
2						



LOG OF BORING SD-09

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USEPA - Region 5
Applied Paper - 12th Street Landfill
Operable Unit #04
Plainwell, MI
Pre-Soil and Sediment Design

Date Completed : 9/16/03
Sampled by : Zachery Clayton

Depth in feet	USCS	GRAPHIC	Water Levels	DESCRIPTION	Probe Recovery (inches)	REMARKS
0						
	SP			6" Coarse grain sand with semi-angular grain		
	SP			6" Coarse grain sand with semi-angular grain		
1					12	
2						



LOG OF BORING SD-11

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USEPA - Region 5
Applied Paper - 12th Street Landfill
Operable Unit #04
Plainwell, MI
Pre-Soil and Sediment Design

Date Completed : 9/16/03
Sampled by : Zachery Clayton

Depth in feet	USCS	GRAPHIC	Water Levels	DESCRIPTION	Probe Recovery (inches)	REMARKS
0				4" Light brown silt		
	MH			2" Light brown coarse grain sand		
				6" Light brown coarse grain sand		
1	SP				12	
2						



LOG OF BORING SD-12

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USEPA - Region 5
Applied Paper - 12th Street Landfill
Operable Unit #04
Plainwell, MI
Pre-Soil and Sediment Design

Date Completed : 9/16/03
Sampled by : Zachery Clayton

Depth in feet	USCS	GRAPHIC	Water Levels	DESCRIPTION	Probe Recovery (inches)	REMARKS
0				6" Light brown silt		
	MH					
				6" Light brown silt mixed with fine grain sand		
	SM					
1					12	
2						



LOG OF BORING SD-13

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USEPA - Region 5
Applied Paper - 12th Street Landfill
Operable Unit #04
Plainwell, MI
Pre-Soil and Sediment Design

Date Completed : 9/16/03
Sampled by : Zachery Clayton

Depth in feet	USCS	GRAPHIC	Water Levels	DESCRIPTION	Probe Recovery (inches)	REMARKS
0				1" Light brown silt		
	SP			5" Light brown coarse grain sand		
				6" Light brown grain sand		
1					12	
2						



LOG OF BORING SD-15

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USEPA - Region 5
Applied Paper - 12th Street Landfill
Operable Unit #04
Plainwell, MI
Pre-Soil and Sediment Design

Date Completed : 9/16/03
Sampled by : Zachery Clayton

Depth in feet	USCS	GRAPHIC	Water Levels	DESCRIPTION	Probe Recovery (inches)	REMARKS
0				1" Light brown silt		
	SP			5" Light brown coarse grain sand		
	SP			6" Light brown coarse grain sand		
1					12	
2						

LOG OF BORING SD-16

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USEPA - Region 5
Applied Paper - 12th Street Landfill
Operable Unit #04
Plainwell, MI
Pre-Soil and Sediment Design

Date Completed : 9/16/03
Sampled by : Zachery Clayton

Depth in feet	USCS	GRAPHIC	Water Levels	DESCRIPTION	Probe Recovery (inches)		REMARKS
0				6" Coarse grain sand with semi-angular grain			
	SP						
				6" Coarse grain sand with semi-angular grain			
	SP						
1					12		
2							



LOG OF BORING EXP-01

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USEPA - Region 5
Applied Paper - 12th Street Landfill
Operable Unit #04
Plainwell, MI
Pre-Soil and Sediment Design

Date Completed : September 17, 2003
Sampled by : Hilary Janousek

Depth in feet	USCS	GRAPHIC	Water Levels	DESCRIPTION	Probe Recovery (inches)	REMARKS
0						
	SM			6" Brown fine sand, grey residual material with organic material and cobbles (0.25-0.5")		
	ML			6" Grey silt residual material		
1					24	
	SM			6" Brown fine sand, grey silt residual material with traces of gravel		
	SM			6" Brown fine sand, grey silt residual material with traces of gravel		
2						



LOG OF BORING EXP-02

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USEPA - Region 5
Applied Paper - 12th Street Landfill
Operable Unit #04
Plainwell, MI
Pre-Soil and Sediment Design

Date Completed : September 17, 2003
Sampled by : Hilary Janousek

Depth in feet	USCS	GRAPHIC	Water Levels	DESCRIPTION	Probe Recovery (inches)	REMARKS
0						
	SM			6" Grey silt residual material with traces of gravel		
	SM			6" Grey silt residual material with traces of gravel and brown fine sand		
1	SW			6" Brown fine sand with cobbles (0.25-0.5")	24	
	SW			6" Brown fine sand with cobbles (0.25-0.5")		
2						



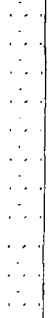



LOG OF BORING EXP-03

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USEPA - Region 5
Applied Paper - 12th Street Landfill
Operable Unit #04
Plainwell, MI
Pre-Soil and Sediment Design

Date Completed : September 17, 2003
Sampled by : Hilary Janousek

Depth in feet	USCS	GRAPHIC	Water Levels	DESCRIPTION	Probe Recovery (inches)	REMARKS
0	SP			6" Dark brown fine sand rich in organic material with traces of subangular gravel	18	
	SW			6" Dark brown fine sand rich in organic material with cobbles (0.25-2")		
1	SW			6" Dark brown fine sand with organic material and cobbles (0.25-4")		
	SW			2" Dark brown fine sand with organic material and cobbles (0.25-4")		
2						



LOG OF BORING EXP-04

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USEPA - Region 5
Applied Paper - 12th Street Landfill
Operable Unit #04
Plainwell, MI
Pre-Soil and Sediment Design

Date Completed : September 17, 2003
Sampled by : Hilary Janousek

Depth in feet	USCS	GRAPHIC	Water Levels	DESCRIPTION	Probe Recovery (inches)	REMARKS
0						
	SP			6" Dark brown fine sand rich in organics with traces of gravel		
	SM/SP			6" Brown silty sand with gravel and cobbles (0.25"-5")		
1					24	
	SP			6" Reddish brown fine sand with small cobbles (0.25"- 2")		
	SP			6" Reddish brown fine sand with small cobbles (0.25"- 2")		
2						



LOG OF BORING EXP-05

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USEPA - Region 5
Applied Paper - 12th Street Landfill
Operable Unit #04
Plainwell, MI
Pre-Soil and Sediment Design

Date Completed : September 17, 2003
Sampled by : Hilary Janousek

Depth in feet	USCS	GRAPHIC	Water Levels	DESCRIPTION	Probe Recovery (inches)	REMARKS
0						
	SP			6" Brown fine sand with organic material		
	SP			6" Reddish-brown fine sand with organic material		
1	SW			6" Reddish-brown fine sand with subangular gravel	24	
	SW			6" Reddish-brown fine sand with subangular gravel		
2						



LOG OF BORING EXP-06

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USEPA - Region 5
Applied Paper - 12th Street Landfill
Operable Unit #04
Plainwell, MI
Pre-Soil and Sediment Design

Date Completed : September 17, 2003
Sampled by : Hilary Janousek

Depth in feet	USCS	GRAPHIC	Water Levels	DESCRIPTION	Probe Recovery (inches)	REMARKS
0						
	SM			6" Dark brown silty sand with organic material		
	SM			6" Reddish-brown silty sand with traces of subangular gravel and cobbles (0.25"-0.5")		
1	SM			6" Reddish-brown silty sand with traces of cobbles (0.25"-0.5")	18	
	SM			2" Reddish-brown silty sand with traces of cobbles (0.25"-0.5")		
2						



LOG OF BORING EXP-07

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USEPA - Region 5
Applied Paper - 12th Street Landfill
Operable Unit #04
Plainwell, MI
Pre-Soil and Sediment Design

Date Completed : September 17, 2003
Sampled by : Hilary Janousek

Depth in feet	USCS	GRAPHIC	Water Levels	DESCRIPTION	Probe Recovery (inches)	REMARKS
0						
	SW			6" Dark brown, reddish brown fine sand rich in organic material with cobbles (0.25-2")		
	SW			6" Dark brown, reddish brown fine sand rich in organic material with cobbles (0.25-2")		
1	SW			6" Reddish brown fine sand with cobbles (0.25-2")	24	
	SW			6" Reddish brown fine sand with cobbles (0.25-2")		
2						


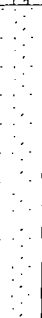




LOG OF BORING EXP-08

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USEPA - Region 5
Applied Paper - 12th Street Landfill
Operable Unit #04
Plainwell, MI
Pre-Soil and Sediment Design

Date Completed : September 17, 2003
Sampled by : Hilary Janousek

Depth in feet	USCS	GRAPHIC	Water Levels	DESCRIPTION	Probe Recovery (inches)	REMARKS
0	SM			6" Brown silty sand with traces of gravel and organics	24	
	SP			6" Light brown fine sand with traces of gravel and subangular cobbles (0.25-1.5")		
1	SP			6" Light brown fine sand with traces of gravel and subangular cobbles (0.25-1.5")		
	SP			6" Light brown fine sand with traces of gravel and subangular cobbles (0.25-1.5")		
2						



LOG OF BORING EXP-09

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USEPA - Region 5
Applied Paper - 12th Street Landfill
Operable Unit #04
Plainwell, MI
Pre-Soil and Sediment Design

Date Completed : September 17, 2003
Sampled by : Hilary Janousek

Depth in feet	USCS	GRAPHIC	Water Levels	DESCRIPTION	Probe Recovery (inches)	REMARKS
0						
	SW			6" Dark brown fine sand rich in organics with cobbles (0.25-1.5")		
	SW			6" Dark brown fine sand with subangular pebbles		
1					24	
	SW			6" Dark brown fine sand with subangular pebbles		
	SW			6" Dark brown fine sand with subangular pebbles		
2						



LOG OF BORING EXP-10

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USEPA - Region 5
Applied Paper - 12th Street Landfill
Operable Unit #04
Plainwell, MI
Pre-Soil and Sediment Design

Date Completed : September 17, 2003
Sampled by : Hilary Janousek

Depth in feet	USCS	GRAPHIC	Water Levels	DESCRIPTION	Probe Recovery (inches)	REMARKS
0						
	SW			6" Brown fine sand with organic material and cobbles (0.25-2")		
	SW			6" Brown fine sand with organic material and cobbles (0.25-2")		
1					24	
	SW			6" Brown fine sand with organic material and cobbles (0.25-2")		
	SW			6" Brown and light brown fine sand with organic material and cobbles (0.25-2")		
2						



LOG OF BORING EXP-11

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USEPA - Region 5
Applied Paper - 12th Street Landfill
Operable Unit #04
Plainwell, MI
Pre-Soil and Sediment Design

Date Completed : September 17, 2003
Sampled by : Hilary Janousek

Depth in feet	USCS	GRAPHIC	Water Levels	DESCRIPTION	Probe Recovery (inches)	REMARKS
0	SP			6" Brown fine sand with organics and traces of gravel		
	SP			6" Brown fine sand with traces of organic material and gravel		
1	SP			6" Brown and reddish brown fine sand with gravel and organic material	24	
	SP			6" Brown and reddish brown fine sand with gravel and organic material		
2						



LOG OF BORING EXP-12

(Page 1 of 1)

USEPA - Region 5
Applied Paper - 12th Street Landfill
Operable Unit #04
Plainwell, MI
Pre-Soil and Sediment Design

Date Completed : September 17, 2003
Sampled by : Hilary Janousek

Depth in feet	USCS	GRAPHIC	Water Levels	DESCRIPTION	Probe Recovery (inches)	REMARKS
0						
	SP			6" Brown, fine grained sand rich in organic material		
	SP			6" Light, reddish-brown fine grained sand with organics and traces of gravel		
1					24	
	SP			6" Light brown, reddish-brown fine sand with traces of gravel and cobbles		
	SP			6" Light brown, reddish-brown fine sand with traces of gravel and cobbles		
2						



LOG OF BORING EXP-13

(Page 1 of 1)

USEPA - Region 5
Applied Paper - 12th Street Landfill
Operable Unit #04
Plainwell, MI
Pre-Soil and Sediment Design

Date Completed :
Sampled by : Hilary Janousek

Depth in feet	USCS	GRAPHIC	Water Levels	DESCRIPTION	Probe Recovery (inches)	REMARKS
0						
	ML			6" Dry grey silty residual material with gravel and organic material		
	ML			6" Dry grey silty residual material with gravel		
1	ML			6" Dry grey residual material with gravel	24	
	ML			6" Dry grey residual material with gravel		
2						



LOG OF BORING EXP-14

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USEPA - Region 5
Applied Paper - 12th Street Landfill
Operable Unit #04
Plainwell, MI
Pre-Soil and Sediment Design

Date Completed : September 17, 2003
Sampled by : Hilary Janousek

Depth in feet	USCS	GRAPHIC	Water Levels	DESCRIPTION	Probe Recovery (inches)	REMARKS
0	SM			6" Dark brown silty sand rich in organics		
	ML			6" Dark brown clayey silt rich in organics with traces of cobbles		
1	CL			6" Dark brown and grey silty clay rich in organics with traces of gravel	24	
	SC			6" Brown sandy clay rich in organics with traces of gravel		
2						



LOG OF BORING EXP-15

(Page 1 of 1)

USEPA - Region 5
Applied Paper - 12th Street Landfill
Operable Unit #04
Plainwell, MI
Pre-Soil and Sediment Design

Date Completed : September 17, 2003
Sampled by : Hilary Janousek

Depth in feet	USCS	GRAPHIC	Water Levels	DESCRIPTION	Probe Recovery (inches)	REMARKS
0						
	SP			6" Brown fine sand with traces of organic material and gravel		
	SP			6" Brown fine sand with traces of organic material and gravel		
1	SP			6" Brown fine sand with traces of cobbles (0.25-2")	24	
	SP			6" Brown fine sand with traces of cobbles (0.25-2")		
2						



LOG OF BORING EXP-16

(Page 1 of 1)

USEPA - Region 5
Applied Paper - 12th Street Landfill
Operable Unit #04
Plainwell, MI
Pre-Soil and Sediment Design

Date Completed : September 17, 2003
Sampled by : Hilary Janousek

Depth in feet	USCS	GRAPHIC	Water Levels	DESCRIPTION	Probe Recovery (inches)	REMARKS
0						
	SP			6" Dark brown fine sand rich in organics with traces of cobbles		
	SP			6" Dark brown fine sand rich in organics with traces of cobbles		
1					24	
	SP			6" Brown fine sand rich in organics with traces of cobbles		
	SP			6" Brown fine sand rich in organics with traces of cobbles		
2						